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ABSTRACT

The purpose of this document is to suggest guidelines for the identification and assessment of children who should participate in programs related to the infant-toddler (Part H) and the preschool (Part B, Section 619) components of Public Law 99-457, the Education of the Handicapped Amendments of 1986. The guidelines integrate information from the fields of medicine, health care, social services, psychology, and education and describe practices to advance the field of early intervention and improve services to children and families. The document first describes the requirements of Public Law 99-457 regarding screening and assessment. A theoretical viewpoint about childhood development is presented, and the differences between screening and assessment are outlined. The complex factors involved in defining the population to be served by Public Law 99-457 are noted, and guidelines for screening and assessing young disabled and developmentally vulnerable children are then proposed. A sequenced planning process is outlined and future tasks are listed. Appendices are attached that contain illustrations of several different models, representative lists of screening and assessment instruments and procedures, a glossary, and regulations from Public Law 94-142 and Public Law 99-457 that pertain to screening and assessment. Includes 79 references. (JDD)

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Screening and Assessment:

Guidelines for Identifying Young Disabled and Developmentally Vulnerable Children and Their Families

SAMUEL J. MEISELS

and **SALLY PROVENCE**

with the Task Force on Screening and Assessment of the National Early Childhood Technical Assistance System (NEC*TAS)

National Center for Clinical Infant Programs

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National Center for Clinical Infant Programs
Washington, D.C.

1989

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Foreword

This document focuses on the rationale, core components, and guidelines for establishing a system for screening and assessing disabled and developmentally vulnerable children, birth through age five, and their families. It is one of several documents being prepared as part of a national technical assistance program for all states, territories, and other governing entities that are implementing Public Law 99-457. Authorization for a large-scale program of technical assistance was included in the original wording of the law and led to the establishment of the National Early Childhood Technical Assistance System (NEC*TAS). Coordinated by the Frank Porter Graham Child Development Center at the University of North Carolina at Chapel Hill, this system includes the National Center for Clinical Infant Programs, the National Network of Parent Centers, the National Association of State Directors of Special Education, the Georgetown University Child Development Center, and the Department of Special Education of the University of Hawaii. One of the first tasks set by NEC*TAS was to invite all of the states and territories to identify their most pressing needs for technical assistance. Among the most frequently identified needs were procedures for conducting screening and assessment. The NEC*TAS Task Force on Screening and Assessment was established to prepare a document in response to requests for technical assistance on this issue.

Two other closely related areas of technical assistance also were identified by states: eligibility for services, and the Individualized Family Service Plan (IFSP).

Definitions of Eligibility. The Task Force coordinated its work with technical assistance being developed by NEC*TAS regarding eligibility issues. During the discussions that led to the writing of this document, it became clear that the tasks of defining eligibility and estimating the number of children involved under both the infant and toddler component of the law (Part H) and the preschool provisions (Section 619) are closely related to screening and assessment decisions. For example, no state should serve children at environmental risk without being knowledgeable about psychosocial assessments or the implications of varying definitions of risk. This document discusses these and related issues.

Individualized Family Service Plan. The Task Force also was informed of the work sponsored by NEC*TAS concerning the Individualized Family Service Plan (IFSP). In many respects the IFSP is the most revolutionary element of P.L. 99-457. It requires that professionals work as a team with a family to identify the strengths of the child and family and, where there are special needs that families have identified as barriers to their child's development, identify how these needs might best be met. The group concurs strongly with the *Guidelines and Recommended Practices for the Individualized Family Service Plan* prepared jointly by NEC*TAS and the Association for the Care of Children's Health that emphasizes the assessment of functional abilities and behavioral characteristics within a developmental context, rather than relying principally on standardized test scores arrived at independently of the family's involvement and only announced subsequently to family members. The IFSP Guidelines and the present document are linked in philosophy and in commitment to the practical implications of that philosophy.

Composition of The NEC*TAS Screening and Assessment Task Force

The National Center for Clinical Infant Programs (NCCIP) assumed the leadership for NEC*TAS in forming a task force to develop recommendations for states about the issues of screening and assessment and

to prepare a document on this subject. The Task Force was composed of nationally respected consultants, NEC*TAS staff, and federal agency personnel. Its sixteen members were individuals who had multiple sources of expertise and multiple perspectives from which to view the task. They included pediatricians, developmental and educational psychologists, early childhood special educators, an occupational therapist, a speech pathologist, a nurse, and a psychiatrist; two parents of children with special needs; at least eight individuals with experience in performing assessments as part of their daily work in either clinical or educational settings, some of whom pioneered measurements of child functioning; a leading expert on the problems of testing young children in our multicultural society; two individuals who advised the U.S. Department of Health and Human Services on the use of a developmental assessment instrument under Medicaid's Early and Periodic Screening, Diagnosis, and Treatment (EPSDT) program, and one who evaluated the results of EPSDT in various areas of the country; a Chair, Executive Director, two members, and three advisors to their state Interagency Coordinating Councils for infant and toddler programs (Part H of the law); two state coordinators for the lead agency under Part H and a coordinator of preschool services (Section 619) from a state department of education; and at least four individuals who work regularly with epidemiological data and several who comment frequently on issues of public policy as they relate to services for children who are disabled or at developmental risk.

Dr. Samuel J. Meisels, Professor of Education and Research Scientist at the Center for Human Growth and Development of the University of Michigan and a member of the Board of Directors of NCCIP, and Dr. Eleanor S. Szanton, Executive Director of NCCIP, delineated the scope of work and the perspectives that would be important to bring to it, set the agenda, and led the meetings. Dr. Szanton played an essential coordinating role, summarizing and synthesizing the many reviews this document underwent, as well as contributing her own perspective. Dr. Meisels chaired the Task Force, planned the structure of the final product, edited, and, with Dr. Sally Provence, Professor Emeritus of Pediatrics and Child Development at the Yale Child Study Center, authored the document.

Every individual in the group reacted to the drafts and contributed essential sections—some large, some small—to the final product. The document is truly a team effort. Thomas T. Kochanek, in particular, wrote two major sections of this document, one of which has been incorporated into the main text of the Guidelines (see Chapter 7), and the other, located in Appendix I, which describes the innovative screening and assessment model he developed for the state of Rhode Island.

The membership of the Screening and Assessment Task Force included the following individuals:

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In addition, Gloria Harbin, Ph.D., read and commented on earlier versions of the Guidelines and shared critical information about eligibility definitions being devised by the states; Glen Casto, Ph.D., with the assistance of Patti Biro, M.Ed., prepared the test matrix included in Appendix II and generously gave us permission to incorporate it into this document; Sharon Walsh, of NASDSE, and Carole Brown, of OSEP, supplied critical information about the statutory requirements concerning assessment; John van Wingen, Ph.D. read, reviewed, and contributed to an earlier draft; and Suzanne Kelley devoted enormous care and skill to the preparation and word processing of the final document. Finally, many other colleagues and all other organizations in the NEC*TAS system including Pascal Trohannis, project director, contributed their views to the final product. The document was reviewed by the U.S. Department of Education.

Introduction

This document is directed to those who provide and organize services, and those who develop policies regarding services for children from birth through age five who are disabled or developmentally vulnerable. The document's purpose is to suggest guidelines for the identification and assessment of children who should participate in programs related to the infant-toddler (Part H) and the preschool (Part B, Section 619) components of P.L. 99-457.

A rich store of knowledge and experience about young children is available from the fields of medicine, health care, social services, psychology, and education, but much is still to be learned about screening and assessment. These guidelines are intended to integrate this information and to describe those practices that will advance the field of early intervention and improve services to children and families. In order to achieve these goals this document will first describe the requirements of P.L. 99-457 regarding screening and assessment. Then, particularly for **service providers,** a theoretical viewpoint about childhood development will be presented and the differences between and characteristics of screening and assessment will be described. Next, specifically for the **organizers of services,** the complex factors involved in defining the population to be served by P.L. 99-457 will be noted and guidelines for screening and assessing young disabled and developmentally vulnerable children will be proposed. Finally, for **policymakers,** a sequenced planning process is outlined and future tasks are listed. Appendices are attached that contain illustrations of several different models, representative lists of screening and assessment instruments and procedures, a glossary, and regulations from P.L. 94-142 and P.L. 99-457 that pertain to screening and assessment.

1 Background: Public Law 99-457

The advent of P.L. 99-457, the Education of the Handicapped Amendments of 1986, marks a historic turning point in federal and state policy for disabled and developmentally vulnerable young children and their families. This legislation encourages the development and implementation of "a statewide, comprehensive, coordinated, multidisciplinary, interagency program of early intervention services for handicapped infants and toddlers and their families" (Part H of the law). It also provides substantial incentives for states to serve all three- through five-year-old disabled children (Part B, Section 619). The law defines handicapped infants and toddlers as those in need of early intervention services because they are "experiencing developmental delays, as measured by appropriate diagnostic instruments and procedures in one or more of the following areas: cognitive development, physical development, language and speech development, psychosocial development, or self-help skills," and those with a "diagnosed physical or mental condition that has a high probability of resulting in developmental delay." In other words, for birth to three-year-old children the definition of handicapped children includes those children with existing conditions that lead almost invariably to disability (e.g., Down syndrome, visual impairments, cerebral palsy), and those children with less well-defined problems who are highly likely to experience developmental delays. Under Section 619, states' definitions of developmental delay must be broad enough to incorporate all categories of established conditions that are served under Part B of P.L. 94-142.

However, Part H (the infant and toddler component) expands the definition of those who may be served. At states' discretion, children who are at risk for developmental delay if early intervention services are not provided may also be considered eligible for early intervention. This expanded definition has far-reaching implications for screening, assessment, and intervention.

Another provision of the law with major ramifications for all aspects of service delivery is its perspective on the role of the family. P.L. 99-457 is family-focused legislation. Consistent with contemporary research about child development (15, 61, 73, 76)[1], this legislation does not view children—particularly in the first three years of life—as isolated service recipients. Rather, children's needs and resources are recognized as being embedded within a family and a larger social context. Indeed, the infant-toddler component of the law requires that services to children be guided by an Individualized Family Service Plan (IFSP) that builds on family strengths and that creates new capabilities within families to support and enhance child development. As a result, identifying children who are at risk for developmental problems, and assessing children's strengths and weaknesses, must take into account family factors as well (for further information, see the report of the NEC*TAS Task Force on Individualized Family Service Plans [32]). Although the formal recognition of the impact of the family context is a long overdue addition to federal legislation concerning at-risk, disabled, and developmentally vulnerable children, it creates new challenges for those responsible for developing identification and assessment procedures.

Thus, the tasks and opportunities immediately relevant to screening and assessment that are set for states by P.L. 99-457 are several: 1) to screen and assess children from birth through age five and their families, using a multidisciplinary approach; 2) to identify infants and young children with known handicapping conditions, those who are "developmentally delayed,"

1. Numbers in parentheses refer to citations found in the Reference Section, p. 32.

and—at states' discretion, for children birth through age two years—those who are at risk for developmental problems; 3) to engage in planning comprehensive services for young children with special needs, accompanied by a model of periodic rescreening and reassessment; and 4) to involve the family at all levels of identification, assessment, and intervention. The promise of this law is great, but the tasks remaining to be accomplished are formidable.

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2 A Perspective on Young Children's Development

In order to identify problems in the development of young children, it is essential to understand the meaning of development and the factors that influence developmental change in the earliest years of life. No single theory of child development exists that all experts agree upon. Nevertheless, several general constructs with immediate relevance to screening and assessment can be derived from the many disciplines, theories, and years of living and working with young children that are available. Among these constructs, summarized in the boxed insert, are the following:

General Observations about Young Children's Development

1. Development is determined by multiple factors.
2. Developmental change is supported, facilitated, or impeded by environmental influences.
3. Societal and cultural influences on the child are mediated by parental figures.
4. The family plays a unique role and makes vital contributions to the child's development.
5. Parenthood is a developmental and adaptive process.

1. The child's development is complex and is determined by multiple factors from the very beginning of life. Development can be described in terms of a number of developmental areas, among them language, mobility, cognition, the organization of experience, and psychosocial and affective development. These are not independent or separate aspects of development, but are interdependent, interacting with one another in ways so complex as to defy our ability to capture them fully (21). Methods of screening and assessment that disregard this complexity will fall short of the claims of their advocates and will fail to meet the requirements in P.L. 99-457 that assessment be comprehensive and that it be concerned with all aspects of development.

2. Characteristics of the infant at birth are subject to environmental influences that operate to support, facilitate, or impede development. These characteristics include the infant's shared, species-specific biological heritage, the infant's unique genetic makeup, the conditions of intrauterine life, the health of the mother, and events during and immediately following labor and delivery. The most significant environmental influences on the infant and young child reside in the qualities of the nurturing environment, qualities that are determined largely by the individual and collective capabilities of the child's caregivers (62). We can not understand or properly assess young children unless we view them within this broad environmental context.

3. The influences of society and culture are, in the early years, mediated primarily by parental figures. Parents interpret the world to their children, through both direct and indirect means. Parents, in turn, are influenced greatly by their own life experiences. The extent to which stress on the family from any source—internal or external—impinges on the young child will thus be a function of the ability of the adults to cope with stress and to make use of supports that can buffer this stress (20, 78). In other words, to screen a child for psychosocial risk or disorder, one must also take into account the stress endured by that child's caregivers and the supports available to buffer and alleviate that stress.

4. The concept of the family system as the focus of intervention is based upon a recognition of the family's unique role, function, and vital contribution to the development of the child and is part of the rationale for the Individualized Family Service Plan

(32, 59, 60). Parents and other family members serve as the sources from whom the child experiences nurturance, learns to love others, and becomes a responsible member of society, even when the family contributes to the child's disorders. In order to be effective, assessments and other services must give full recognition to the importance of the caregivers in the child's development—to their strengths and adaptive capacities, as well as their vulnerabilities and difficulties.

5. Just as children undergo a process of development, so can parenthood be conceptualized as a developmental and adaptive process. New parenthood, with all of its attendant joys and tribulations, has been called a normal adaptational crisis, a major turning point in life (58). As parents assume new roles and responsibilities, their attitudes and behavior toward their baby and growing child are influenced by many factors: their own experiences as children; current realities in their lives; the support they receive from each other, service providers, and their social system; and the characteristics of the child, including illnesses or handicaps. There is no doubt that the birth of a child who differs greatly from a parent's dreams, or who is fragile, ill, or has an impairment, is a deeply painful experience and a challenge to parents' self-esteem and adaptive capacities (30). When an impairment is chronic in nature, the pain and challenge are recurrent, despite periods of remission, satisfaction, and accommodation, and despite the joy brought to parents by their disabled children.

Service providers must keep in mind that their partnership with parents on behalf of the child is unequal. Even when professionals provide substantial and sustained services, parents bear most of the responsibility for caring for their children. Parents must be treated with the utmost consideration, respect, support, and skill in the screening and assessment process. Parental participation and opinion should be valued and utilized during this process. Furthermore, professionals should seek to become aware of how their own cultural values and expectations about family life influence their interactions with families.

3 Processes and Procedures for Screening and Assessing Young Children

Assessment in early childhood can take many forms. In addition to those procedures associated with the process of Child Find, Table 1 describes three types of assessment activities. These include developmental and health screening, diagnostic assessment, and individual program planning—activities that are separate and distinct, and should never be confused with one another. (The **Glossary** in Appendix III, p. 58, defines many of the terms used in this section.)

Screening and assessment (which are printed in boldface in Table 1) are often preceded by specific types of public awareness activities. Not assessments or screening themselves, these **"child find"** efforts are intended 1) to alert the community at large to the availability of and rationale for early childhood intervention programs, and 2) to describe some of the "warning signs" that might encourage a parent or professional to seek further services for a young child.

Table 1 Levels of Assessment Activities*

	Purpose	Personnel	Activities
Child Find	To create awareness of typical and atypical child development among the general public	State personnel, public health professionals, volunteers, community members, early chilhood personnel, parents, caregivers	Census taking, posters, brochures media publicity
Developmental and Health Screening	**To identify children who may need further diagnostic assessment**	**Professionals, parents, lay professionals**	**Administration of screening instruments, medical examinations, hearing & vision testing, parent questionnaires, and review of records**
Diagnostic Assessment	**To determine existence of delay or disability, to identify child and family strengths and needs, and to propose possible strategies for intervention**	**Multidisciplinary team of educators, psychologists, parents, clinicians, physicians, social workers, therapists, nurses**	**Formal testing, parent interview, home observation, team meetings**
Individual Program Planning	To determine individual educational/family services plan, program placement, and remedial activities	Parents, teachers, assessment team personnel, other professionals	Home and/or program observation, informal assessment, development of remedial objectives

*Adapted from Meisels (46).

Child find activities should occur concurrently with screening and assessment and should contribute to the task of maintaining prospective registries or other means of tracking children who are likely to need special services.

Developmental and health screening encompasses activities that are intended to identify at an early stage those children who have a high probability of exhibiting delayed or abnormal development. Such screening can be used principally for detecting biological problems (e.g., PKU, sickle cell anemia), or for identifying problems in other areas of development. Screening tests that are used for screening large numbers of children (as, for example, in the Early and Periodic Screening, Diagnosis, and Treatment program [EPSDT]) should be brief, efficient, inexpensive, objectively scored, reliable, valid, culture-fair, and should have a broad developmental focus (44). When other processes or procedures are used that do not rely principally on a screening test, but focus instead on documenting environmental and familial risk factors, many of these criteria still apply, although more latitude for individual variation in procedures and inclusiveness of a wider range of potential service recipients are introduced (50).

Diagnostic assessments are intended to determine conclusively whether a child has special needs. They also are used to ascertain the nature and character of the child's problems, suggest the cause of the problems, and propose possible remediation strategies (72). Formal assessment instruments should be used in the context of a multidisciplinary team effort that involves the parents as both a potential focus of intervention and as a source of assessment data. **Diagnostic assessment should be based on multiple types of data obtained from multiple sources (43).**

Assessment for individual program planning occurs after a decision has been made to initiate early intervention. Typically, these assessments are criterion-referenced, focusing on a child's mastery of skills or tasks rather than the child's relative standing in comparison to some normative group (4). These instruments, which are useful for individual program planning and for program evaluation, fall beyond the scope of this document.

Clarifying the Purpose of Screening and Assessment

The levels or types of assessment activities noted in Table 1 are related, but clearly have different purposes. **No process, procedure, or assessment device should ever be used for any purpose for which it was not designed.** This is a fundamental maxim of all psychological, health, and other developmental measurement (2) and is central to the appropriate use of screening and assessment practices in early childhood.

Confusion between screening and assessment procedures is particularly common, although they serve quite different ends. Screening procedures and instruments are indicative; diagnostic assessments are intended to be thorough and definitive. Screening sorts out those children for whom diagnostic assessment is a reasonable next step; assessment determines if that choice was correct.

It should be noted that developmental screening tests and developmental assessments are generally more accurate with preschoolers than with infants and toddlers. Indeed, indicators of early developmental status have limited predictive value, compared to child performance data gathered with appropriate instruments at four or five years of age (42). In other words, the contribution that child-centered data make to valid screening and assessment decisions increases over time (12). Factors that initially had little discriminative ability during infancy may have substantially greater powers of prediction and discrimination if collected two years later (7). This highlights the need to develop criteria of risk and disability in the early years that include multiple factors. Also important is the need to adopt more than one method of identification for the birth-through-five population. Performance on a single instrument in the absence of examination of other variables will not be sufficiently sensitive to respond to these developmental and measurement issues (45).

Neonatal Screening. The importance of multiple sources of information is also evident in screening for developmental risk among newborns. Increasing numbers of infants are being born to mothers who are alcohol- or drug-addicted; similarly, the number of babies who are HIV-positive at birth is growing rapidly. As a result, it is no longer adequate to screen for potential neonatal morbidity by focusing solely on such standard indicators as parental socioeconomic and educational background, maternal illness, infant weight, length, and gestation, Apgars, asphyxia, predelivery and postnatal complications, etc. (41, 48, 51). Rather, a history of parental lifestyle, including addiction to smoking, alcohol, or other drugs, also should be recorded, as should the timing and dose of these drugs during pregnancy, if this information is available. These

data, taken in combination with the typical morbidity information noted above and supplemented potentially by cranial ultrasonography and by such neonatal measures as the Prechtl neurological examination (57) and the Brazelton Neonatal Behavioral Assessment Scale (13), will provide indicators of the likelihood that a child may show at least short-term developmental consequences that may require further assessment, and subsequently, intervention.

The Committee on Genetics of the American Academy of Pediatrics (1) has published fact sheets concerning ten major conditions that lend themselves to newborn screening (e.g., congenital hypothyroidism, cystic fibrosis, Duchenne muscular dystrophy, PKU, galactosemia). The characteristics of the diseases and the principal screening tests for each of them are reviewed in the fact sheets, and additional references also are provided.

Characteristics of the Screening and Assessment Process

Parental Participation. One should not try to screen or assess very young children without the active participation of those most expert about them—their parents. All parents know a great deal about their children, and the task of those conducting the screening and assessment is to enable parents to transmit that information productively. This transmission requires the creation of a climate in which parental anxiety, sadness, guilt, or anger can be expressed, and an alliance on behalf of the child can be initiated. It also calls upon such "clinical" skills as listening to parents and interviewing them with sensitivity.

Clinical Interviewing. The value of informed and sensitive interviewing, derived from accumulated knowledge about physical and psychological health and illness and information concerning developmental issues placed within the context of cultural sensitivity, can hardly be overestimated. A skillful clinical interview, whether used as part of the screening or the assessment, can be the source of data that sets the tone of the working relationship between parent, child, and service provider, informs the interviewer, and is a major source of guidance for future interactions with the family (see Appendix II A).

Observation. A related aspect of this process is observation of child behavior. Whether formal or informal, observations of how children play and work alone or in interaction with others, act or react, speak or remain silent, and express or inhibit feelings provide a wealth of information about child growth and development. Two situations in which observation is the source of particularly relevant assessment data include teacher observations in educational and child care settings, and systematic observations of infant behavior and mother-infant interaction. These types of observations are at the heart of a variety of approaches that are utilized in diagnostic and therapeutic settings. One way of assessing a child's coping style within the context of the physical and the social environment is demonstrated by use of the Early Coping Inventory (79) and the Coping Inventory (77). The first instrument can be used from 4 to 36 months; the latter from 3 to 16 years.

Setting. The setting of the screening and assessment is also very important. In particular, it is essential that the screening or assessment experience be as free from stress for the child and family as possible. Illness, fatigue, fear, anxiety, excitement, or upset from any source can influence an infant's or young child's behavior during an assessment. Consequently, the results of a one-time screening or assessment should not stand alone in decisions about need for service. Data accumulated from multiple observations, concurrently and over time, are necessary in order to serve children adequately and to avoid excluding them from the services they need.

Informal settings. If at all possible, screening and assessment should be conducted in settings that are familiar and comfortable for children and families. For example, young children can be screened in their homes or nursery school or day care groups by their teachers, using systematic observation guidelines or instruments. For infants and toddlers, it is especially important that such observations include information about parent-child interactions.

Formal settings. Sometimes screening and assessment are conducted in pediatricians' offices or in such specialty clinics as child development centers, rehabilitation centers, special education facilities, or programs for the mentally, physically, or emotionally disabled. This approach has the advantage of bringing together the various members of an interdisciplinary team in a single location. Also, some types of complex assessments (e.g., audiometric examinations) require a specialized setting. Whenever a child is seen irregularly, episodically, or on only a single occasion, one will no doubt need a broader range of measurements than are necessary when children are evaluated over a longer time span by persons who know them well and who are familiar with their development.

Parent Involvement

The role of parents in screening and in the multidisciplinary assessment process is a central feature of P.L. 99-457 (see 32). Parents should be viewed as participatory members of the assessment team who have a vital voice in making decisions regarding their child's program and services. This perspective requires professionals to become responsive to the unique requirements of each family. **A family's right to direct the focus of their child's assessment should be respected at all times.**

One of the central insights that has emerged from the past 15 years' work with disabled and developmentally vulnerable young children is the importance of parent-child interactions in understanding development (6, 30, 61, 62, 76). Different patterns of parent-child interactions have been linked with significantly different developmental outcomes. As a result, assessment of the quality of parent-child transactions is included increasingly in clinical evaluations of children and their families (58). These evaluations should be well-researched and well-developed, and should conform to accepted professional guidelines (see, for example, 34). Standardized scales for assessing interaction also are available. Barnard has devised the Nursing Child Assessment Scales (5) as early predictors of health and development. The scales have good reliability and validity, and a training program is available.

Another well-developed scale is the Greenspan-Lieberman Observation System of Caregiver-Infant Interaction during Semi-Structured Play (29). The GLOS was designed to aid in observation and clinical measurement of mother-infant interactions. Two other clinically based interaction scales are the Parent Child Observation Guide (9), whose use is described in Appendix I B, and the Parent-Child Early Relational Assessment (18), a scale that focuses on the parent-child relationship and the unique characteristics of both members of the dyad. Comprehensive surveys of other measures of parent-child interactions are also available (6, 69).

Prior to the passage of P.L. 99-457, the role of parents during the assessment was often limited to serving as informants regarding the child's history and as passive recipients of assessment results. Too frequently the parents found the process intimidating and overwhelming. As one father remarked, "They dissected my child and left me with the task of putting him back together again."

Questions Concerning Parent Involvement in Assessments

1. What is the purpose of the assessment and what outcomes are to be achieved?
2. Will the assessment address the questions and concerns of the parents?
3. Are the parents involved in determining the nature of the assessment process, the areas to be assessed, and the methodology to be used, as well as the extent of their participation?
4. Will the assessment consider the child's developmental and adaptive functioning within the context of the family unit and parent-child interaction?
5. Does the climate of the assessment process encourage optimal comfort and sharing by family members and by professionals?
6. Are assessment findings presented in a jargon-free, integrated manner that promotes understanding and that emphasizes the child's strengths as well as vulnerabilities?
7. Are the parents involved in developing the IFSP/IEP and in determining the future course of action?
8. Are issues of cultural diversity included sensitively in the assessment process?

P.L. 99-457 challenges professionals to examine the way they conduct assessments and to design flexible procedures that facilitate collaboration with parents or other primary caregivers. The boxed insert on this page lists questions that may assist an interdisciplinary team in addressing the issue of parent participation. These questions can be used to design an assessment protocol for a program as a whole, or to personalize the assessment experience for a particular child and family. They serve to clarify the methods and procedures for collecting information, the roles and functions of family members and professionals in the process, and the expectations for outcomes by all participants. The response of professionals to these questions will vary widely, depending upon the needs of the children and families to be served and the available resources of the program.

Reporting to Parents

Content of Reports. Reports prepared for parents should focus on the functional abilities of the child

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rather than on test scores. Examples of the kind of information that should be included in a report are: the conditions under which the child was assessed, the child's responsiveness, the family's judgment about whether the child's performance was optimal, measures that were used (including scores if appropriate), the examiner's interpretation of what the scores mean, and the rationale for that interpretation.

Test scores should never stand alone without explanations and comments. If a standardized test was used, but not for the purposes for which it was intended, or if it was administered in a manner that differs from the way it was normed, it is essential to supply that information. A report that cites test scores but that fails to state the basis for the information can be misleading and can do a serious disservice to the child and family. In addition, it is desirable to include a statement of the family's goals for their child, and to relate test results to those goals. These are by no means an exhaustive list of suggestions, but are intended merely to illustrate the importance of preparing reports that are descriptive and comprehensive, rather than allowing scores or reports of performances to stand alone.

Use of Professional Jargon. Reports should be free of jargon and terms that are subject to misinterpretation. They should be readable by families and by professionals from other disciplines. While it may be unrealistic to expect that every document that is part of a report will be free of a profession's terminology, the more universally understandable the report, the more useful it will be. The **Glossary** in Appendix III defines some of the more commonly used terms associated with tests and measurements.

Identification of Assessment Participants. When a single report represents the results of more than one individual's observations, it is valuable to include the names of the individuals involved in the assessment and their disciplines. If all observers and reporters of behavior, including the parents, are identified, questions about the report can be directed to those involved. Parents should be encouraged to participate in or observe the testing. However, their individual preferences should be elicited and respected so that they participate only to the extent that they are comfortable.

Dissemination of Reports. Oral reports to families and to other professionals should be followed or accompanied by a written report. It is very difficult for anyone to recall accurately results that he or she is given during a time of stress, and the report at the conclusion of an evaluation can be very stressful for a family. The same responsibilities for thoroughness of content, jargon-free language, and sharing of information that apply to written documents apply to verbal reports.

Confidentiality and Parental Access. Parents are entitled to see and to be given copies of all reports about their child. It is inappropriate to write a report that will be included in a child's record that one is not willing to share with the family. Confidentiality of records is a delicate issue, because confidentiality protections are sought by parents in order to guard against abuse, such as having personal information shared without parental knowledge and consent. Yet agencies sometimes use confidentiality rules to establish control or to protect themselves against legitimate requests from parents for information. Parents seeking information about their own children should be informed of and have a right to see any reports or records that are available to others. Parents should determine and specify in writing who may be permitted to receive each report. Finally, either a copy of the report should be made available in the parent's native language, if other than English, or an interpreter should be present to explain the process and the findings.

4 Vignettes

Examples of how tests and test procedures can mislead parents and professionals are legion. The vignettes selected for inclusion demonstrate the urgency to go beyond test scores in order to interpret screening and assessment data within a broad systematic context. Use of the guidelines presented in this document would eliminate many of the problems described in these vignettes.

Vignette 1: Serving a Disabled Child Who Does Not Have a Specific Diagnosis

Bill and Mary Jones contacted the Special Children's Clinic when their four-month-old baby seemed to them to be "different" from their other two children. To receive services the clinic required that a child be delayed in at least two of five developmental areas, and, to receive financial assistance for ongoing testing, assessment, and treatment, the child had to have a diagnosis. Bill and Mary were told that a diagnostic work-up must be completed before their child could receive services. Mary's primary concern was that her baby was not as alert as her other children and did not seem to be visually tracking, or to be feeding, or rolling over as she expected. Bill's primary concern was the child's lack of coordination and abnormal muscle tone. After going through the clinic's diagnostic work-up, the Joneses were informed by the social worker that there was nothing wrong with their child: he was a little slower than some children, but he would grow out of it. Bill and Mary took their child home, but within a month began to question the results of the assessment. They decided to seek other advice. Over the next two years the Joneses were told alternatively that their son was blind, deaf, microcephalic, autistic, mentally retarded, hypotonic, and had cerebral palsy. At each step of the long, arduous road for this family, the parents' information and observations were not given credence. If Mary said she knew her child could see because he would respond to a certain toy, or if Bill commented that his child could hear because of reactions when a guitar was played, the professionals would say, "Mr. and Mrs. Jones, that is not indicated by our tests results."

Bill and Mary Jones's child is eight years old and has undergone the best testing and assessment procedures available in the country. At this time he remains undiagnosed. He can hear and see, does not have CP or microcephaly, and is not autistic. He functions at a three-month level and receives the services now that his parents had requested when he was an infant. Nevertheless, the Joneses still struggle with obtaining both services and financial assistance and insurance reimbursements due to the lack of a "diagnosis."

Three things occurred in this situation that screening and assessment processes should guard against. First, screening and assessment were used as the sole means of determining eligibility for services. Therefore, if the child did not meet eligibility criteria, further assessment or treatment did not follow. Second, the parents' information and knowledge about the child was not considered valid, resulting in a severe emotional impact on the family and a loss of valuable information for the assessment process. Third, policies that require that a diagnosis be given to a child before even preliminary services are initiated often result in service providers suggesting to parents, "Let's diagnose him as CP (or autistic, or hearing impaired, or hypotonic, etc.) so your child can receive services." This can have a devastating impact on the child and family, as the child may begin to be treated as if he actually has that condition. In other words, removing the option for medical personnel and service providers to treat the undiagnosed child either forces them to misdiagnose so the child will receive services, or denies the child services. Systems must be built to allow parents and service providers alike to say, "I don't know what is wrong, but the child is different, and would benefit from some of the services we offer."

Vignette 2: Clinical Use of a Norm-Referenced Screening Test

A nine-month-old with a history of prematurity and a Grade II intraventricular hemorrhage passed the Denver Developmental Screening Test (DDST) at his adjusted age. However, the Pediatric Nurse Practitioner was concerned about the quality of his performance and noted that he showed mild hypotonia. Furthermore, the mother was single, lacked family support, and had responsibility for her two other preschool children as well. Based on the DDST alone, no further action would have been taken at this time. However, because of the additional observations, it was felt that this child would benefit from bimonthly visits from a clinical nurse specialist to offer family support and developmental services.

In this case, the expertise of the examiner and her attention to the combination of risk factors superseded reliance on a screening instrument alone. Nevertheless, the DDST was useful in providing a standardized framework for making developmental observations. When the test is used by individuals who are less experienced but who are adequately supervised, it gives some assurance that children with moderate to severe developmental delay or neuromuscular abnormalities will be detected.

Vignette 3: Problems of Prescribing Specific Instruments and Specific Scores on These Tests as Eligibility Criteria for Services

Alan was an infant with Down syndrome. The system providing services to this child and family had initiated services based upon his diagnosis of Down syndrome. Yet this system required that the Bayley and the Vineland Scales be administered in order for the child to continue to be eligible for services. At five months of age, Alan's Bayley MDI was 90, with Vineland Adaptive Behavior Scale results that were consistent with the Bayley. When questioned as to the implications of performance in the average range on an eligibility test by a child with a condition of established risk, the staff person in the service system assumed the child would still be eligible for services, but it was not clear how this would be justified.

This issue could have been dealt with by establishing eligibility based upon multiple sources. Performance within a specific range on measures of intelligence and adaptive behavior was one such source, but having a condition of established risk could independently qualify a child for services.

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Vignette 4: Limitations of Relying on a Single Developmental Indicator for the Determination of Risk

A study followed two groups of infants. At age four months both groups of infants had average scores of 115 on the Bayley Scales of Infant Development Mental Development Index (MDI). At 24 months both groups averaged 85 on the MDI, a statistically significant drop of two standard deviations. Further, at both 4 and 24 months of age, one group scored significantly below the other group on the Bayley Psychomotor Development Index (PDI) and the Tension and Motor Coordination items from the Bayley Infant Behavior Record (IBR).

What factors could account for these differences in Bayley Scale performance over time and between groups? The first finding, regarding the drop in MDI, can be accounted for by the fact that the infants in both groups were born into low-income, multiproblem families. This dramatic decrease in Bayley Scale performance is characteristic of groups of children born at environmental risk. The practitioner should not develop a false sense of security because the children did well at age four months. Knowing the children were born at environmental risk means that their progress should be monitored frequently even when there appears to be no initial developmental problem.

The second finding, regarding motor differences, is accounted for by the fact that infants in one group were exposed in utero to methadone, a heroin substitute. While their mental functioning was apparently not affected by the drug exposure, they seemed to be experiencing problems in motor development. Such motor problems have been found to be associated with attentional deficits and school adjustment problems.

Thus, it is clear that relying on a single developmental score, such as a Bayley MDI or PDI, would have presented an erroneous picture of the functioning and needs of these children. Multiple sources of information are necessary for proper interpretation of test results.

Vignette 5: Use of Inappropriate Tests for Placement

School leaders often use formal assessments to determine the structure of kindergarten offerings and the placement of children in kindergarten. The assessments in one school district were the Peabody Picture Vocabulary Tests and the Caldwell Preschool Inventory; these instruments were used to determine children's "readiness" for kindergarten. Many of the children who were assessed were from low-income families and many of those were minorities.

The results of the testing were used to divide the twelve kindergarten classes into two groups. One group was labeled "regular" and the other group was labeled "developmental." In fact, the developmental kindergartens were comparable to special education classrooms that offered mainly remedial "readiness" activities. Five of the twelve kindergartens were labeled developmental. A disproportionately large number of low income and minority children were enrolled in these classes.

The assessment, or testing, was inappropriate for many children who had never been exposed to the vocabulary and content of the Peabody or the Preschool Inventory. While the information from these normative tests could be of some value, the rigid use of normative decision points for classification was inappropriate. In this case, the test score was the sole determining factor in the placement decision. Children who could be served appropriately in regular classrooms are poorly served when they are denied access to those classrooms.

5 Risks to Young Children's Development: Who Should Receive Services?

In order to understand the importance of utilizing sensitive screening and assessment procedures, it is essential to describe the characteristics of the children who may be eligible for services under P.L. 99-457. The problems of young children who are disabled, developmentally delayed, or at risk for developmental disorders are usually described in terms of three general categories: established conditions, biological risk, and environmental risk (68). Established developmental delays or disabilities refer to such diagnosed conditions as Down syndrome, inborn errors of metabolism, cerebral palsy, myelomeningocele, etc. Biological risk factors include prematurity, neonatal asphyxia, respiratory disease, and other such conditions. Examples of children who are at environmental risk include those who are born into extreme poverty, experience consistently poor nutrition, and/or are abused or neglected, and whose families are highly disorganized or otherwise dysfunctional. (See Blackman [11] for a compilation of risk factors in early childhood development.)

It is clear that these three categories are not mutually exclusive. Children who have an established condition may also be biologically and environmentally at risk. Indeed, many children whose experience of maternal attachment, family coherence, health care, nutrition, and opportunities for physical, social, and adaptive stimulation are very limited or negative will show symptoms of delayed development that are indistinguishable from those displayed by children whose difficulties can be traced to biological causes.

The task of defining the population of children who are at risk for developmental problems is thus very complex and must be confronted before a process of screening and assessment can be proposed. Development is influenced by multiple, interacting factors. Except in extreme cases, both biological and environmental variables contribute to a child's developmental status. For example, although children with a history of preterm birth may be enrolled in special education programs at a higher rate than comparison populations, these children usually have a number of other risk conditions besides prematurity that play a significant role in their development. These factors could be biological, such as neonatal seizures, chronic lung disease, sensory disorders, or persistent feeding problems. Or they could be environmental, such as early and prolonged inattentive caregiving, absence of family support, or severely adverse economic conditions leading to problems in providing necessary and sufficient conditions for healthy growth and development.

The overlap among causal factors helps to explain why evidence regarding the incidence and prevalence of disability in the first six years of life is inconclusive. A recent survey of prevalence rates of three- to five-year-old children who were served by 26 states during 1986-87 revealed a range of less than 1 percent to a high of more than 5 percent (70). (The national prevalence figure for handicapped school-age children is 12 percent, although recent research has called into question the appropriateness of many of these classifications [26]). Data from the states of Rhode Island and Massachusetts reveal that many more ten-year-old children are judged to be disabled than birth to three-year old children (35). In Rhode Island, six times as many ten-year-olds were considered disabled as three- to five-year-olds. Similar findings are available from Michigan, a state that since 1971 has had an entitlement to services from birth. A recent analysis of children who were identified and served in the first five years of life showed an overall prevalence rate of 2.4 percent (47). However, the prevalence figure nearly doubled at age four years when compared with the birth to three-year-old population, and it more than doubled again by age six years.

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Several reasons explain the disparity between prevalence rates reported in early childhood and those reported for school-age children. First, categories used for reporting handicapping conditions in school-age children are often inappropriate for use with younger children. For example, two-year-olds cannot be classified appropriately as "learning disabled." Second, the number of young children with a handicapping condition can change at any point in time. Young children go in and out of risk depending on the basis for the risk itself, external circumstances, and intervention. Third, as contrasted with the wide array of assessment devices that can be used for diagnosis with school-age children, many fewer valid instruments are available for use with young children. In addition, infant intelligence tests have limited powers of prediction for general populations (16, 31, 38, 51). Although there is substantial documentation of the predictive validity of assessments of infants with moderate to severe developmental delays, the skills that are evaluated by infant tests (e.g., sensory-motor and adaptive), while important for later functioning, are not identical to those measured on tests of cognitive functioning at later ages (e.g., visual/motor skills, or verbal reasoning) (65). Fourth, because relatively few early intervention services are currently available compared to school-age programs, there is simply less public awareness and fewer opportunities to identify young children. Finally, since children with developmental problems do not fall neatly into one of the three general etiological categories mentioned earlier, it is very difficult to make accurate projections from single causal factors—particularly concerning biological and environmental risk—to numbers of children who are likely to display developmental problems. All of this suggests that not only is much more information needed, but different methodologies for collecting these data and different approaches to screening and assessing young children must be devised before accurate estimates of prevalence rates can be established.

In an effort to combine the multiple factors and forces that influence development and developmental risk, several researchers (7, 8, 37, 63, 73) have formulated risk indexes that incorporate a number of different types of variables (e.g., birth status, maternal education, child neurological status, parent-child interaction, etc.). This work has led to defining risk status in cumulative terms (63). As risk factors multiply, their combined effect is greater than the impact of most single variables. In other words, with the exception of severe damage to the central nervous system, no single factor typically determines outcome. Rather, it appears that developmental risk and disability are greatly increased when children are exposed to multiple risks. It is the combined impact of biological (e.g., perinatal stress) and environmental factors (e.g., early family instability) that leads to serious and persistent learning and behavioral problems. **Our task is to develop a screening and assessment process that acknowledges the multiple contributions of risk and disability, and that incorporates a structure that is sensitive to the particular needs of young children and their families.**

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6 Recommended Guidelines for Developmentally Appropriate Screening and Assessment of Disabled and At-Risk Young Children and Their Families

The principles presented earlier concerning child development, screening and assessment, and population parameters can be recapitulated and combined into a number of specific guidelines for screening and assessing children, birth through age five years, and their families (see boxed insert on page 24 for a summary). These guidelines summarize the concepts already presented and serve as a guide to future practice. Although screening and assessment are different processes with different but related purposes, the guidelines apply to both forms of evaluation.

Screening and Assessment as Intervention Services

1. Screening and assessment should be viewed as services—as part of the intervention—and not only as means of identification and measurement

The process of screening and assessment goes beyond scores, standard deviations, and levels of functioning. It is often a family's first introduction to the human service or educational system and it is potentially a short-term therapeutic experience in itself. For examiners, tests and other procedures can be used to organize observations about a child and family, rather than solely to control eligibility for services. Assessment, in particular, should be approached as an ongoing, dynamic process with multiple components, including case management, family support, transitional programs, and the development of the IFSP/IEP.

Purposes

2. Processes, procedures, and instruments intended for screening and assessment should only be used for their specified purposes.

Adoption of any screening or assessment instrument, process, or procedure requires that the user understand the purpose of the screening or assessment and, particularly in the case of tests and other measurement devices (e.g., checklists, scales, inventories), that the user follow the guidelines of the test developer. The requirements for norm-referenced measures of such highly inferential constructs as intelligence or psychomotor competence should meet stringent professional guidelines for standardization, reliability, validity, and training (see 2). A scale that reflects a lesser degree of inference about the information obtained—for example, whether a family wishes assistance in meeting family-identified needs, or the level of instrumental social support available to a family—would have different requirements for reliability, validity, and standardization.

Multiple Sources

3. Multiple sources of information should be included in screening and assessment.

A child is a product of both nature and nurture. Environmental and biological factors jointly play a role in determining a child's health and developmental outcomes. Research has shown that no single factor is always present or always absent when high levels of socio-emotional and intellectual deficits are found. Rather,the presence of multiple predictors of risk within the child, the family, and the environment appears to distinguish between those children who develop serious learning and/or behavior problems and those who are able to cope successfully with the developmental tasks of childhood and adolescence. Health records, together with parental records of milestones and other data sources, can be invaluable in the assessment process. Because developmental disorders are generally attributable to multiple factors or multiple causes, assessments should reflect the multidetermined nature of development and the cumulative nature of risk.

Guidelines for Screening and Assessment

1. Screening and assessment should be viewed as services—as part of the intervention process—and not only as means of identification and measurement.
2. Processes, procedures, and instruments intended for screening and assessment should only be used for their specified purposes.
3. Multiple sources of information should be included in screening and assessment.
4. Developmental screening should take place on a recurrent or periodic basis. It is inappropriate to screen young children only once during their early years. Similarly, provisions should be made for reevaluation or reassessment after services have been initiated.
5. Developmental screening should be viewed as only one path to more in-depth assessment. Failure to qualify for services based on a single source of screening information should not become a barrier to further evaluation for intervention services if other risk factors (e.g., environmental, medical, familial) are present.
6. Screening and assessment procedures should be reliable and valid.
7. Family members should be an integral part of the screening and assessment process. Information provided by family members is critically important for determining whether or not to initiate more in-depth assessment and for designing appropriate intervention strategies. Parents should be accorded complete informed consent at all stages of the screening and assessment process.
8. During screening or assessment of developmental strengths and problems, the more relevant and familiar the tasks and setting are to the child and the child's family, the more likely it is that the results will be valid.
9. All tests, procedures, and processes intended for screening or assessment must be culturally sensitive.
10. Extensive and comprehensive training is needed by those who screen and assess very young children.

Periodicity

4. Developmental screening should take place on a recurrent or periodic basis. It is inappropriate to screen young children only once during their early years of life. Similarly, provisions should be made for reevaluation or reassessment after services have been initiated.

Development is affected by many factors. Because screening and assessment of young children can capture only a momentary "snapshot" of this developmental process, it is not surprising that predictions from infancy are so tenuous. Health status, in particular, should be taken into account when considering an infant or young child's performance at any given time. In short, early identification and assessment should be an ongoing process, not only to make services available to all those who need them and to adjust the service to a child and family's evolving situation, but, for those who no longer need special services, to create transitions to more generic, community-based programs.

Eligibility

5. Developmental screening should be viewed as only one path to more in-depth assessment. Failure to qualify for services based on a single source of screening information should not become a barrier to further evaluation for intervention services if other risk factors (e.g., environmental, medical, familial) are present.

By virtue of the brevity and highly inferential nature of screening tests, and the dynamic changes in development that occur during the first few years of life, no single test will be adequate to the task of identifying the range of potential developmental problems that can occur in early childhood. Furthermore, problems that have their origin in the caregiving environment, or that appear later in childhood, cannot be expected to be detected by a single data source. It is important that other sources of information—from the family, a home visitor, a child care provider, or a health professional—be able to trigger more in-depth assessment. Children with such established conditions as Down syndrome, cerebral palsy, or myelomeningocele should not undergo developmental screening, but should proceed to assessment and program planning. Children who have had inadequate prenatal and/or postpartum care and families that have had inadequate preparation and support for child rearing can often be identified by child welfare and protective services personnel. These

individuals should be trained to recognize major familial vulnerabilities and risk factors, and to conduct at least a first-level screening of the child and of the environmental characteristics that are known to have an adverse effect on a child's health and development.

Reliability and Validity

6. Screening and assessment procedures should be reliable and valid.

Relatively few screening and assessment instruments have undergone rigorous standardization. Tests of any kind, whether norm- or criterion-referenced, that are used for classification or for referral for special services should be sensitive and specific, and culturally relevant; they should provide consistent results when administered by different personnel in different situations; and they should yield important information regarding the need for services that are known to be beneficial to children and families. The type of standardization required of a test or procedure is determined by how the information will be used and by the type of data collected. For example, reliability for a clinical interview that is considered only part of a process of identification and assessment could be a second clinical opinion. In contrast, reliability for a psychometric instrument (i.e., a quantitative assessment of an individual's psychological and other developmental traits or abilities) requires interrater agreement, test-retest stability, and other statistical tests and procedures.

Family Involvement and Informed Consent

7. Family members should be an integral part of the screening and assessment process. Information provided by family members is critically important for determining whether or not to initiate more in-depth assessment and for designing appropriate intervention strategies. Parents should be accorded complete informed consent at all stages of the screening and assessment process.

A child's family constitutes one of the most important sources of information about his or her development. There is a tendency for tests and testers to ignore or even discredit this information and to disregard parents' perceptions of their children's strengths and problems. Assessors and assessments should solicit information actively about the child from the family, incorporate parent report data into the assessment, be sensitive to family needs, and seek to build on family strengths. Moreover, parents should be informed about the entire process that they and their child are about to undergo, the potential implications of the process, the qualifications of the personnel involved, and the likely benefits for child and family. Consistent with the parents' provision of consent, professionals should assure that their records are legible, clearly written, jargon-free, and nonprejudicial, and that copies are made available to parents for review.

Relevance

8. During screening or assessment of developmental strengths and problems, the more relevant and familiar the tasks and setting are to the child and the child's family, the more likely it is that the results will be valid.

Screening and assessment should examine those aspects of the child's experience that are central to his or her development, and should do so, if possible, in a setting that is natural, nonthreatening, and familiar to the child and family. In particular, parent-child interaction should be included in developmental assessments, and should, whenever possible and appropriate, include observations in the home.

Cultural Sensitivity

9. All tests, procedures, and processes intended for screening or assessment must be culturally sensitive.

The need for cultural sensitivity and fairness stems from the influence of a child's environment upon development. Most tests for developmental delay are normatively based. Many members of culturally diverse populations with different speech patterns or different approaches to child rearing can easily be mislabeled by these tests because they have not been reared in a culture that shares the language usages, or life experiences and values, that are embedded in the test's norms. The greater the reliance on the vocabulary, values, and general educational achievements of the majority group, the greater the possibility of misinterpreting the abilities of minorities and members of subcultures. Cultural variation affects the child's experience; what is acceptable in one culture may not be in another. It is essential that cultural and linguistic differences be separated from judgments about developmental deficiencies.

Training

10. Extensive and comprehensive training is needed by those who screen and assess very young children.

In order for families to utilize intervention services

effectively, it is essential that a trusting relationship be established between screeners or assessors and families. Screening, assessment, and intervention staff should receive extensive training with specific techniques and specific age groups, and should be trained in such areas as building successful relationships with families, observing children, implementing developmentally appropriate practices, interpreting assessment results to families, using instruments properly, and establishing community linkages for further assessment and intervention services. Pre-service and inservice training, continuing education, and the availability of supervision and consultation are all essential for the delivery of high quality services.

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7 Steps in Planning a Screening and Assessment Process[1]

Several key planning activities can be identified to assist states in developing sound screening and assessment models. Rather than recommending adoption of a specific model or approach, the intent of this section is to convey the sequential activities and decisions that are critical to the development of responsible practices. The steps in this planning process are presented in the boxed insert.

Steps in Planning a Screening and Assessment Process

1. Define the population for whom the screening and assessment model is intended.
2. Collect prevalence data for defined conditions.
3. Identify the origins of the defined conditions.
4. Identify standardized and nonstandardized measures that reflect the key etiological factors.
5. Develop an inventory of all existing screening and assessment programs and statewide resources.
6. Devise a screening and assessment process.
7. Ascertain need for training and technical assistance.
8. Develop evaluation/research design, including provisions for longitudinal follow-up.

1. Define the Population for Whom the Screening and Assessment Model is Intended

The initial and most critical phase of the planning process is the establishment of a definition of the population to be identified. While children with established conditions and/or developmental problems constitute the focus of most screening initiatives, it is nevertheless important to list and define operationally these conditions, particularly those associated with developmental delay.

States considering the feasibility of serving high-risk children and their families should recognize that children can be at high risk for developing a wide range of disabling conditions. Consequently, a significant question that must be resolved at the outset concerns specifying which of these conditions the screening model may be designed to identify. For example, the model could focus on children who receive any form of special education and/or ancillary service after entering school, thus including mild, moderate, and severe conditions; those who have chronic or terminal illness, or are technologically dependent and medically fragile; those who, subsequent to school entry, are placed in substantially separate educational/therapeutic environments such as psychiatric hospitals or residential programs; or children who require therapeutic treatment due to abusive/neglectful interactions with adults, or who are affected by substance abuse or addiction.

It is also important to note that states may elect to adopt population-based models in which all families with young children receive periodic screening and are provided with a range of child and family support services that emphasize parent competence and family well-being. Such commitments to prevention can be embedded within a comprehensive screening and assessment model that requires a much broader vision of services that extend beyond the needs of special children.

2. Collect Prevalence Data for Defined Conditions

In order to determine the effectiveness of existing screening and assessment procedures for defined conditions, it is necessary to collect and tabulate

1. Prepared by Thomas T. Kochanek.

prevalence data that portray the relative occurrence of specific disorders or outcomes over time. Although such data are generally quite limited, available information has been reported elsewhere for special education populations (35, 47). Nevertheless, it is critical that data from all human service agencies be reviewed. Data that may prove to be particularly helpful include Department of Health Vital Statistics, Title V Maternal and Child Health data sets, profiles of participants and outcomes with the EPSDT programs, child protective services and mental health data, and information from other child care and family support programs.

Beyond examining the prevalence of specific conditions within individual states, national prevalence and incidence data for identical conditions also should be reviewed. In this way statewide data can be placed within a broader context, and discrepancies specific to an individual state can be investigated.

3. Identify the Origins of the Defined Conditions

Given consensus on those conditions that should become the focus of a screening and assessment model, it is important to have a clear understanding of the origins of such disorders. In this regard, two bodies of literature are useful. The first involves an extensive series of predictive validity studies that have attempted to identify significant factors in the prenatal, perinatal, and early developmental periods—factors that have proven to be powerful predictors of specific disorders or conditions, usually subsequent to school entry (see 7, 37, 63, 73). Although such a literature review will not yield definitive conclusions regarding the measures that should be used at various points in time, specific factors or areas of child and family functioning (e.g., caregiving and environmental information combined with data about the child's biological status) will emerge that are helpful in conceptualizing a measurement process.

A second body of literature involves program efficacy studies conducted within the past two decades on handicapped as well as socially and economically deprived children (23, 66). Again, although these results will not produce specific solutions, they do contain programmatic suggestions that, if attended to, appear to be strongly related to productive child and family outcomes. Overall, the purpose of such an analysis is twofold: 1) to identify key predictive indexes of individual conditions; and 2) to propose predictive factors that cut across conditions so that a comprehensive, integrated screening and assessment system may be developed.

4. Identify Standardized and Nonstandardized Measures That Reflect Etiological Factors

As risk factors and/or areas of child and family functioning that appear to be antecedents of the defined conditions are identified, measures reflecting these factors should be selected. In certain instances, instruments will be available that have been used for screening or assessment; the advantages and disadvantages of adopting such measures should be clearly understood prior to implementation (see Appendix II B for a listing of cautions and of representative measures). However, some areas (e.g., family functioning or social support) are relatively limited in terms of the instruments that have been developed specifically for use in screening or assessment. Such measures should be used as part of a more comprehensive process that employs not only multiple measures but also multiple reporters (e.g., clinicians and parents) of information and status.

5. Develop an Inventory of All Existing Screening and Assessment Programs and Resources

A comprehensive, interagency-based summary of all existing screening and assessment programs also should take place. Such an inventory would include education-sponsored initiatives as well as those sponsored by health care systems (e.g., prenatal care and screening, hospital discharge planning programs, EPSDT, public health nursing efforts, other community-based health center programs) and other social service programs that contain screening and assessment components.

The primary objective of this resource analysis is to portray the existing capabilities and gaps within a statewide system and to identify the most feasible and cost-effective structure upon which a comprehensive model may be built. This may result in states electing to use a wide range of resources, including public health nurses, pediatricians, existing child find programs, day care providers, or parents.

6. Devise a Screening and Assessment Process

Completion of the above activities should yield an inventory of existing screening and assessment programs as well as the core components of a potentially new, comprehensive process. It will then be necessary to specify how data will be collected, by whom, at what time intervals, with which instruments, and on what segment of the population. Central to these decisions is the development of procedures that follow the guidelines presented in this document, and that define

clearly the role and function of principal data collectors, and the manner in which this information will be used and exchanged to make decisions on behalf of young children and their families. These decisions should include not only a specification of the screening process itself, but also all key activities occurring subsequent to screening, including multiple pathways to additional screening, assessment, and service provision.

7. Ascertain Need for Training and Technical Assistance

In order to implement a comprehensive screening and assessment process, early intervention professionals should be trained in two areas: 1) the development of technical knowledge for the administration and interpretation of screening and assessment tools, and 2) information dealing with family systems theory, family life cycles, family structure and interaction processes, and issues relating to cultural diversity.

Effective communication between assessors and families involves an ability to identify and support family strengths. Although program staff may be very comfortable in conversing with parents about their children, they may experience considerable discomfort when it comes to discussing family needs, functions, or resources. Training strategies focused on developing proficiency in family-focused interviewing should thus assume high priority.

8. Develop Evaluation/Research Design Including Provisions for Longitudinal Follow-Up

As previously indicated, while research data appear to suggest unequivocally the need to devise screening and assessment models that integrate child- and family-focused data, such models are still in early stages of development. Although the ingredients of a conceptual model are clear, the precise manner in which data elements should be combined and risk factors weighted has yet to be specified. Consequently, careful and thoughtful field trial periods should be designed.

In addition, longitudinal follow-up and monitoring of children and families into the primary grades is of great importance. Implementation plans should include provisions for following children through school, gaining access to child performance data, and analyzing the relationship between screening and assessment model components and academic, cognitive, and socio-emotional outcomes. Parental satisfaction with the process also should be examined. Clearly, this not only involves significant data collection and processing tasks, but also calls for a highly detailed plan for obtaining parental permission and strong provisions for the protection of human subjects and of confidentiality of information collected over time. Although the process is admittedly complex, the true statistical, clinical, policy, and cost implications of such screening models will never be fully appreciated unless such evaluation designs are developed and implemented.

8 Conclusions and Future Directions

Several conclusions follow from the guidelines presented in this document. First, obtaining data on a periodic basis from multiple sources including the child's family is necessary, if children in need of services are to be identified as early as possible. Second, identification and assessment should combine caregiving and environmental variables with data about the child's biological status. Finally, in the first few years of life, quantitative measures of child development should always be used in combination with other sources of data from the caregiving and environmental domains.

It is apparent that no single test can accomplish these tasks. Rather, a multilevel process of screening and assessment should be devised. The appendices to this document carry out these themes, first, by providing several illustrations of screening and assessment processes, and second, by including a matrix that lists representative instruments that can be incorporated into a comprehensive process of identification.

The information contained in this document reviews the knowledge available about how to structure screening and assessment programs for young children and their families. Although much is known, much more is yet to be learned. The boxed insert on this page presents several of the tasks that will require sustained attention by researchers, clinicians, and policymakers in the coming years. Needed is an expansion of the concept of screening so that its preventive function is emphasized and appreciated, while its positive findings (i.e., those who are disabled or at-risk) are acted upon with sensitivity and with efficiency. Of equal importance is the need to develop additional screening and assessment measures and procedures—ones that are reliable and valid and that incorporate multiple sources of information into a screening decision. We need new models of assessment as well—models that permit us to evaluate the *process* of how infants, toddlers, and preschoolers learn, not just the products of their previous learning. Similarly, we need to focus more attention on measures of family functioning. Current approaches to assessing family dynamics, as well as parent-child interactions, are

Future Policy Directions for Screening and Assessment

1. Expand the concept of screening and assessment to include prevention efforts, rather than focusing primarily on remediation programs.
2. Create models for determining more clearly and equitably the eligibility of children and families for service.
3. Refine existing infant and early childhood developmental screening measures and develop new measures that are valid and reliable.
4. Systematically incorporate clinical interviewing skills into the screening and assessment process.
5. Analyze the meaning and implications of parent-child interaction measures.
6. Develop additional measures of family functioning.
7. Focus on measures for screening the environment that are multicultural and that are appropriate for various social and economic groups.
8. Restandardize assessments to include disabled children in the normative sample.
9. Develop more systematic and effective training programs.
10. Collect longitudinal data that will enable us to devise more accurate risk indexes that can be used for prevention and intervention.

principally research methods or are dependent on highly skilled clinical professionals. Approaches that can be used in more settings by a wider range of individuals should be developed. Also, existing instruments should be reviewed and restandardized to be more relevant to multicultural groups and to disabled children.
Finally, additional resources should be devoted to training professionals to use new procedures and instruments, and research must be conducted to better understand the impact of these approaches.

Certainly, no one group of professionals has the responsibility for implementing all of these tasks. Rather, what is needed is a collaborative effort that will, for example, support clinicians in their exploration of new models of training and supervision, researchers in their efforts to devise new approaches to assessment, and state-level policy makers in their development of screening and assessment programs that are accurate, fair, effective, and innovative.

Screening and assessment in the first five years of life are complex processes, reflecting the complexities in the lives of young children and their families. The issues involved go well beyond test construction to include theories of child development, clinical approaches to working with families, and programs of primary and secondary prevention. Typically, screening and assessment bring to mind the use of psychometric instruments. But these guidelines have sought to demonstrate that such instruments must be embedded within a process that incorporates multiple variables reviewed on several occasions in a variety of settings by a number of trained individuals who are informed by clinical insights obtained from children and their families. If this approach is adopted, the various components of screening, assessment, and intervention can be linked, and the potential for helping children and their families greatly increased.

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Appendices[1]

I. Illustrations
II. Processes and Procedures of Screening and Assessment
III. Glossary
IV. Statutory Requirements

1. All references cited in the Appendices are given in the preceding section.

APPENDIX I

Illustrations

Several illustrations are appended. The first is a serial, multivariate model developed by Kochanek (33) for field testing in the state of Rhode Island and summarized by him for this document. This model leads from a general population scan ("Level I") to a more in-depth screening of child, family, and environment ("Level II"), and ultimately to multidisciplinary assessment and intervention.

The first level of screening of the Multivariate Screening and Assessment Model for Rhode Island focuses on a review of available data regarding demographic variables (maternal age, education, and marital status), child characteristics (neonatal and postnatal status, known handicapping conditions), and parental characteristics (performance of routine child care functions, reports of previous abuse or neglect, record of prenatal and preventive care). Based on the results obtained in Level I screening some children and families are referred to the second level of screening. Level II screening occurs in the child's home and uses established screening devices to review the child's developmental characteristics, family resources and supports, and parent/child interaction. Depending on the results of this screening, a child and family may go on for intensive multidisciplinary assessment; they may be referred to appropriate community-based resources that provide periodic monitoring and/or coordination of multiple service providers; or, where no risk is observed, they may not be seen again until the next Level I screening is scheduled.

This approach incorporates all of the guidelines and principles presented in this document. It represents a comprehensive approach to identification and service delivery. It is interagency-based, multivariate, and periodic. In short, it is a prospective decision-making model that accommodates a wide range of children and families.

The second illustration presents a more clinical approach to screening and intervention with extremely

high-risk children and their parents. Implemented in Illinois, it focuses on assisting children born to teenage parents who often live in highly deprived and disorganized environments, both urban and rural. The Ounce of Prevention Fund Program, here described by Bernstein, has been presented elsewhere by Musick and her colleagues (52, 53). The program seeks to improve adult or adolescent parent functioning in order to enhance the life chances of their children. As Musick et al. (52) point out, the developmental program presented in this illustration provides traditional developmental screening and ongoing observation of the parent-child relationship for all of the children born to adolescent parents in the program. It grew out of a recognition of the need for direct service staff to have useful techniques for understanding and assessing children's development. Underlying the actual methods devised for the developmental program is a commitment to identifying more subtle problems in the realm of socio-emotional development and assisting the lay professional staff in these programs "to become more confident and skillful in enabling teens to function effectively in their parenting roles" (52, pp. 4-5). This illustration exemplifies how a screening process can carry out therapeutic goals, focus on socio-emotional development, and be inclusive rather than exclusionary. The model is uniquely well-suited to populations that are developmentally at high-risk because of the adverse conditions of the caregiving environment.

The third illustration describes an approach to infant-toddler assessment that integrates information about the child's health and developmental status with information about the family. The Connecticut Infant-Toddler Developmental Assessment Program (IDA) was designed to meet the need for improved developmental assessment services for disabled and/or at-risk infants and toddlers. The IDA is designed as a process-assessment that requires specialized training but can be administered by a wide range of professionals. It is intended to provide a broad-based view of the child's current functioning. Consistent with the guidelines proposed in this document, the IDA results in an integrated summary of health, family, and developmental findings.

The final illustration combines reports from three states—Iowa, North Carolina, and Washington. All three provide related, but different approaches to screening, tracking, and assessing high-risk children. The programs are described in greater detail in the NCCIP document, *Keeping track: Tracking systems for high risk infants and young children* (54). As a whole, the three systems that are summarized provide serial, multivariate tracking from birth (or prenatally); they focus on the family's strengths and needs, as well as the child's; and they attempt to create a smooth transition between services for the child and family as they move through the service system, linking families with appropriate professionals, and "keeping track" of children and families in order to facilitate periodic reevaluation and case management.

A. A Multivariate Screening and Assessment Model for Rhode Island[1]

As the state of Rhode Island has sought to develop a model program for screening and assessing infants and toddlers, use has been made of the findings from several studies (14, 37, 55) that underscore the critical role of ecological factors as determinants of child outcome. Early detection models, particularly for children younger than 12 months of age, which rely exclusively upon adverse factors manifested in infancy and early childhood, were deemed highly likely to misclassify as nonhandicapped substantial numbers of children who are subsequently found to be disabled (50). Ecological factors also had to be assessed.

Beyond the obvious need for a multiple-risk, interactional model, equally important for us was the requirement to move beyond relatively static "macroscopic" factors (e.g., maternal education) to more focused "microscopic" risk measures that address psychological, familial, and interactional variables within the family unit. We noted that incorporating a statement of family strengths and needs into early intervention programs was not an isolated activity, but rather a *process* which prompted complex questions regarding the intent and design of such services. For example, in evaluating family assessment measures we also had to examine existing eligibility criteria and the manner in which services were delivered on behalf of specific children and their families. As a result, the model development process extended beyond simple instrumentation searches to include explorations of attitudinal, philosophical, and professional positions regarding the primary mission of early intervention, its target population, and its range of appropriate services.

As we reviewed a broad range of predictive validity and program efficacy studies (36), four areas of family

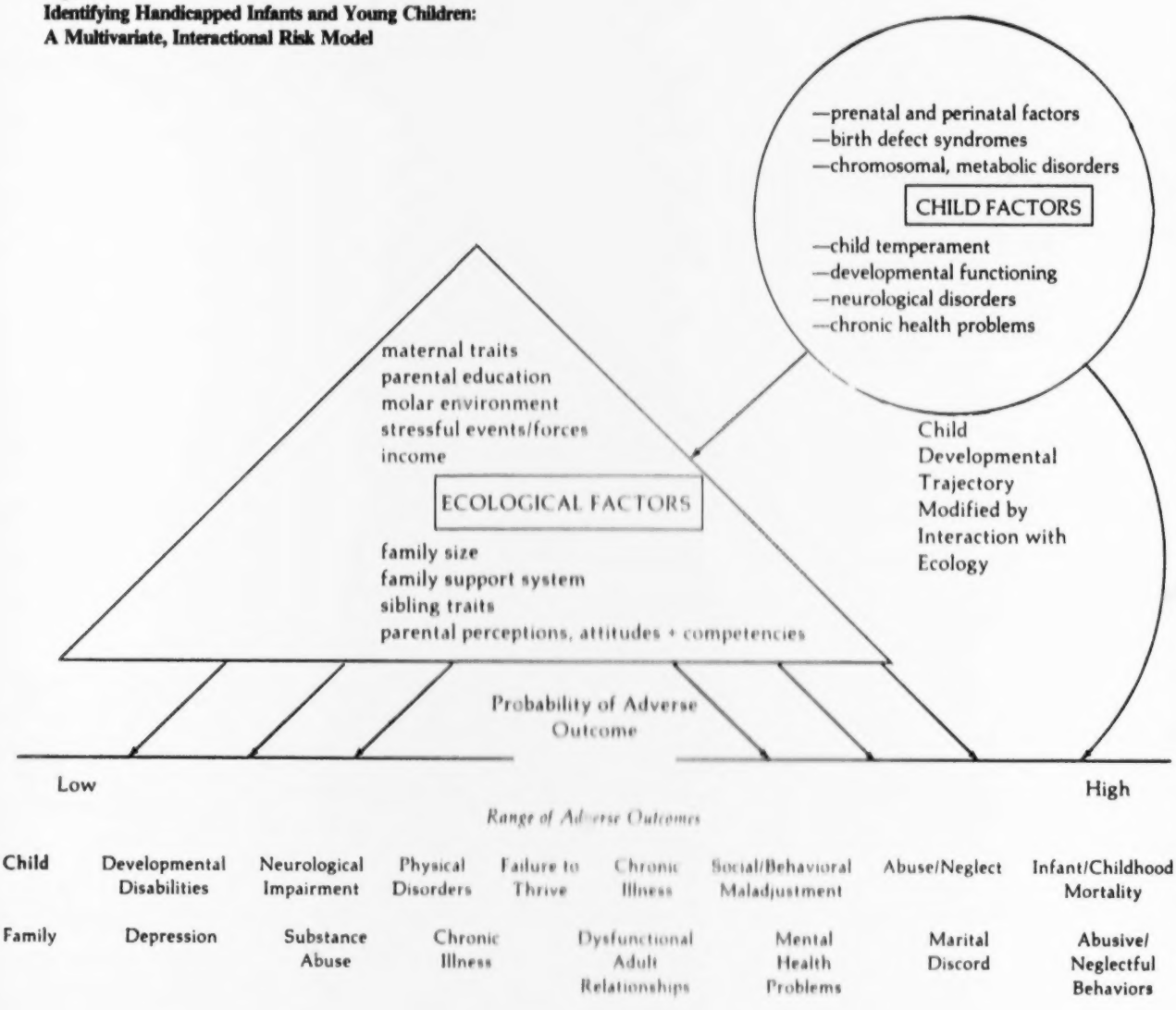
1. Prepared by Thomas T. Kochanek.

functioning appeared to us to have demonstrated value and impact, and were central to the design of our screening process. These areas include family needs, resources, and strengths; social support network; significant life stressors; and characteristics of the caregiving environment.

Viewed collectively, Figure 1 portrays the theoretical underpinnings of a multivariate, child- and family-focused screening and assessment process that incorporates these areas. It suggests that truly reliable and valid models are those which accommodate the transaction between child competence and the ecological factors noted above. Furthermore, studies indicated to us that these same child and ecological factors are precursors to a wide range of adverse outcomes including developmental disabilities (67), infant and childhood mortality (75), child abuse and neglect (25), and psychiatric hospitalization (56). Given the robust empirical foundation for such a risk model, and that programs designed to respond to these various problems typically reside within different state agencies, the justification for an interagency, family-focused model seemed indisputable.

Consistent with the principles and research findings advanced herein, this screening and assessment model was founded on the following assumptions:

Figure 1
Identifying Handicapped Infants and Young Children: A Multivariate, Interactional Risk Model



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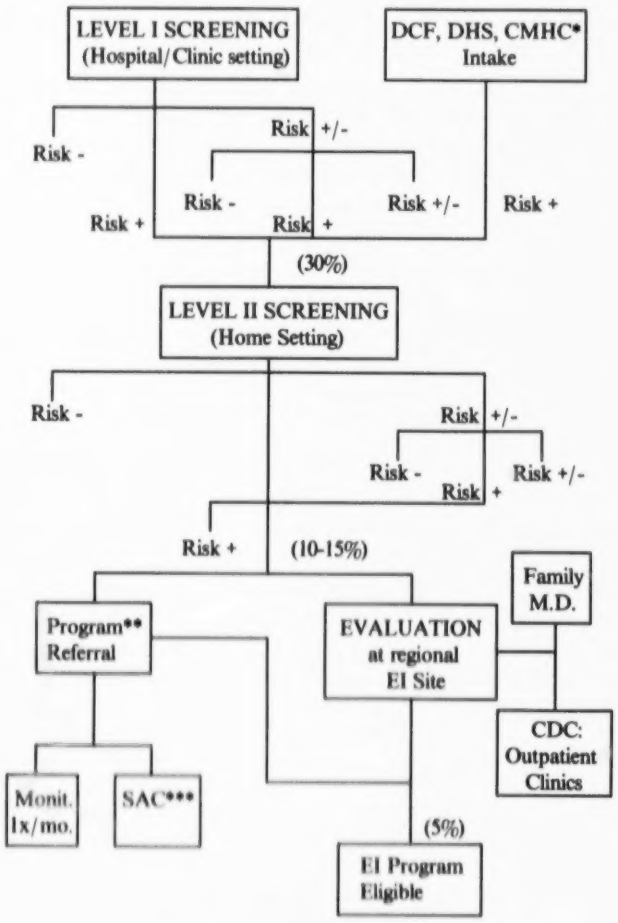
1. The primary goal of the screening process is to identify all children from birth through five with established conditions and developmental problems, as well as vulnerable, low-resource families within which children are at substantial risk for subsequent school failure. The concept of limited resources is not restricted to tangible areas (e.g., income, housing, medical care, nutrition), but also includes maternal/primary caregiver characteristics such as parenting skills, social/emotional competence, ability to gain access to and appropriately utilize community services, alternative modes of dealing with adversity, access to intrafamilial and extrafamilial support systems, and interpersonal and intrapersonal competence.
2. In order to minimize decision-making error, the screening process should be a two-tiered model reflecting different degrees of specificity at each level; for children from birth through two, the first level would be conducted in the hospital/clinic setting, and the second in the home environment. For preschool youngsters, screening would occur in schools and day care or nursery facilities. To the maximum extent possible, the screening model should be incorporated into all existing programs and services (e.g., maternal and child health neonatal screening, EPSDT, preventive pediatric services). Moreover, the basis for a decision regarding the need for additional diagnostic testing would be made according to three sources of information: a) child characteristics; b) parental traits; and c) maternal/child interaction.
3. Due to significant variation in child developmental pathways, as well as ongoing changes in family status, all children and families should be examined serially over time on at least four occasions between birth and three years of age. Judgments regarding the need for additional evaluation will be based upon evidence of jeopardy at individual time points as well as from determination of cumulative risk.

The screening and assessment process for children from birth through two is represented in Figure 2. Several features inherent in this procedure are noteworthy. First, in recognition of the fact that some families are not identified by the health care system upon which this screening process is founded, early identification efforts also will involve direct referrals from agencies which service families with elevated risk, including child protective service programs, community mental health centers, and public assistance programs.

Figure 2
Screening and Interdisciplinary Assessment Process—Birth to Three



*Dept. Children/Families, Dept. Human Services, Community Mental Health Center
**Day care, mental health services, parent counseling, health services, parenting courses, social services, employment training, etc.
***Service/Advocacy and Coordination

Second, based upon examination of vital statistics data, it is estimated that approximately 30 percent of the population will emerge from Level I screening as Risk Positive and thus require a second, more detailed home screening; ten to fifteen percent of the population will emerge as Risk Positive from Level II. It is anticipated that approximately five percent of the sample will be judged as eligible for early intervention, and ten percent will require either access to a single, community-based service or coordination of multiple

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existing service providers. While the rationale for these prevalence estimates is presented elsewhere (35), this dual-level screening process clearly reflects an interagency, family-focused, decision-making model.

Third, judgments regarding the need for additional evaluation are based upon evidence of developmental risk at individual time points, as well as from determination of cumulative risk. The three distinct outcomes that would emerge from the Level I Screening process would include:

1. *Risk Positive:* This outcome would entail evaluation at the next level in the screening process. It would include all cases where at least one positive finding is observed in two or more areas examined, or multiple findings are observed in one area, or isolated, positive findings are observed at two successive screening contacts.
2. *Risk Suspect:* This outcome calls only for phone monitoring. It includes all cases where isolated, positive findings are observed that require periodic review.
3. *Risk Negative:* This outcome results in a repeat of Level I screening at the next time point. It includes all cases where no child and/or parental risk factors are observed.

The outcomes resulting from Level II Screening are as follows:

1. *Risk Positive:* This outcome results in multi/trans-disciplinary team evaluation within early intervention program. It would involve all cases where at least one positive finding is observed in two or more areas examined, or an isolated positive finding is observed at two screening points.
2. *Risk Suspect:* This outcome calls for repeat of Level I at the next time point. It includes all cases where isolated, positive findings are observed that require periodic review.
3. *Risk Negative:* This outcome calls for repeat of Level I at the next time point. It includes all cases where no child and/or parental risk factors are observed.

Figures 3 and 4 portray the components of this two-tiered screening model for children from birth through two and their families. Several features should be noted. Level I screening, by design, is a *population-based* process and, as such, these services are intended to be made available to all families with infants and toddlers at four periodic time points (neonatal period, and at 6, 12, and 24 months of age).

Figure 3
Level I Screening: Hospital/Clinic Setting

Data Source:	Neonatal Period Maternity R.N./MCH R.N.	6 Months M.D./* R.N.	12 Months M.D./* R.N.	24 Months M.D./* R.N.
Areas Assessed				
1. Demographic				
Maternal education	X	—	—	—
Maternal age	X	—	—	—
Maternal marital status	X	—	—	—
Number of persons living in mother's home	X	—	—	—
2. Child Characteristics (Risk)				
Birthweight	X	—	—	—
Gestational age	X	—	—	—
Apgar	X	—	—	—
NICU treatment	X	—	—	—
Number and length of hospital admissions	—	X	X	X
Growth parameters	—	X	X	X
Number of confirmed instances of otitis media	—	X	X	X
Hearing assessment	—	X	X	X
Vision assessment	—	X	X	X
DDST	—	X	X	X
Lead screening	—	X	X	X
3. Parental characteristics				
Developmental disabilities	X	—	—	—
Mental health tx.; inpatient	X	X	X	X
Mental health tx.; outpatient	X	X	X	X
Protective services	X	X	X	X
No/inadequate prenatal care for mother	X	—	—	—
Substance abuse	X	X	X	X
Chronic illness	X	X	X	X
4. Child Characteristics				
(Known Handicaps)				
Chromosomal anomaly Cerebral palsy Neural tube defect Visual impairment Auditory impairment Neurological disorder Metabolic disorder Multiple congenital anomalies Other birth defect syndromes	For children with known handicapping conditions identified at *any* of the above time points, collect all above data and automatically refer to Level II screening.			

*EPSDT, Preventive Pediatric Services, Private Physician, HMO

Second, children with known handicapping conditions are referred to early intervention programs immediately; for the remainder of the population,

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Figure 4

Level II Screening: Home Environment

	Time			
	Neonatal Period	6 Months	12 Months	24 Months
Data Source:	Parent; PHN*	Parent; PHN	Parent; PHN	Parent; PHN
Areas Assessed				
1. Child Characteristics				
Mullen Scales of Early Learning				
or				
Developmental Profile II	X	X	X	X
2. Parental Characteristics				
Family Support Scale**				
and				
Family Resources Scale**	X	X	X	X
3. Mother/Child Interaction				
Home Observation for the Measurement of Environment***	X	X	X	X

*Public Health Nurse

**Dunst, C., Jenkins, V., & Trivette, C. (1984). Family support scale. In C.M. Trivette & A.G. Deal, (Eds.), *Enabling and empowering families: Principles and guidelines for practice*. Cambridge, MA: Brookline Books.

***Caldwell, B., & Bradley, R. (1979). Home observation for measurement of the environment. Little Rock, AR: University of Arkansas.

referral to Level II screening is based upon the presence of multiple positive findings in one area of assessment or a single positive finding in two or more areas. All individual factors are assigned equal weights in this decision-making process, and all factors have defined criteria (i.e., cut points) which are specified elsewhere (35).

As previously indicated, Level II screening involves a home visit and includes a decision-making model which is based upon multiple sources of information, including: 1) child developmental competence; 2) quantity and quality of maternal/child interaction (clinician perception); and 3) significant, unmet needs, family resources, and support network (parental perception). As such, final decisions pertaining to early intervention program referral are based upon a balanced set of screening data which include not only the child's level of functioning, but also statements of needs, strengths, and resources as reported by both parents and professionals.

Overall, the primary objective of such a model is to develop a decision-making process founded upon child and family variables for the purposes of screening, assessment, and IFSP development. While studies and principles presented earlier are enormously helpful in drafting such multivariate models, no reliable and valid process has yet been created. Consequently, as experimental models are developed (as shown, for example, in Figure 4), careful field trial periods will be mandatory prior to widescale adoption. Significant evaluation questions which must be addressed in such pilot projects include the following:

1. What differences exist in the population identified by the proposed multivariate model in contrast with existing referral pathways and casefinding techniques? What specific factors in the model account for these differences?
2. What differential contribution does each variable cluster (i.e., child and family) yield relative to the decision functions of screening, program eligibility, assessment, and IFSP development?
3. Do these contributions vary in relationship to child chronological age, to diagnostic categorization, or in terms of the function itself (e.g., are specific data elements more conducive to screening rather than IFSP development)?

Adoption of family measures within early intervention programs carries with it the opportunity to view eligibility from a novel perspective. While generating risk-responsive, coordinated, and comprehensive IFSPs remains the principal outcome of child and family assessment, commitments to specific measures invariably will prompt a range of complex questions regarding not only the eligible early intervention population, but also the manner in which the population is most appropriately serviced. In addition, systematic field trial periods of screening and assessment models that are truly child- and family-focused will generate invaluable prevalence data which will be influential in developing population, service, and cost estimates for statewide and national implementation. Programs will need to devise appropriate and technically sound implementation plans so that the above representative questions may be answered.

B. The Ounce of Prevention Fund Developmental Program in Illinois: Screening, Assessment, and Support for Families at Environmental Risk[1]

Rationale. The Ounce of Prevention Fund, a public-private partnership, funds and develops 37 community-based programs serving teenage parents, their families, and approximately 4,000 children in the state of Illinois. The mission of the Ounce of Prevention Fund is to improve the developmental outcomes of participants' children.

Children of teenage mothers are at significant risk for poor development because of both biological risks associated with poor prenatal care and prematurity, and such environmental risks as poor housing and limited parenting skills. Some investigators estimate that 40 to 50 percent of infants born at environmental risk, particularly those born to teenage parents, manifest developmental disabilities or severe emotional or behavioral problems by the time they enter elementary school (28).

Recent research has demonstrated that problems in the parent-infant relationship are predictive of developmental lags and difficulty in school adjustment (3, 7, 22). Conversely, a warm, positive, nurturing relationship between child and adult has been shown to be a powerful resource for resisting environmental risk. Such parent-child relationships are predictive of successful social adaptation in adulthood (74).

The toddlers in our programs represent an example of this phenomenon. Many of them were motorically and cognitively competent, but their social interactions were often very limited or aggressive. Many children remained passive even when their parents were hostile or intrusive. The parents rarely smiled or initiated positive interaction with their children. Nearly half of the children in the program demonstrated a lack of emotional connection, or restricted or disorganized socio-emotional behavior. Similarly, their parents usually exhibited communication patterns of a limited nature in interaction with their children.

In a traditional screening and assessment model one identifies a problem and then makes a referral for appropriate intervention services. But in this way only the families with existing problems in the parent-child relationship would be eligible for services. Consistent with this model, one of our original goals was to identify potential developmental problems as early as possible and make referrals to the appropriate programs, thereby making intervention easier and more effective. However, only one percent of the children in our programs were identified as having a "Suspected Delay" when we administered the Denver Developmental Screening Test (DDST). Yet many staff had intuitive concerns about many of the children although the children scored within normal limits on the DDST. Many children did not seem "connected" to their parents or to other adults.

As a result, we developed the Parent Child Observation Guides (PCOG; 9) to make our clinical observations more objective. The guides also are used to help the lay professional staff understand the parent-child relationship and to provide all staff with a frame of reference for their own clinical intuitions. Through parent-child observation it became clear we needed to refer approximately half of our families to programs in order to strengthen parental patterns of responsiveness. As a result, we began to provide services aimed at the parent-child relationship within the framework of existing Ounce of Prevention Fund programs.

Model. This approach is founded on the belief that *all* families can benefit from education and support. Families' strengths should be acknowledged to build their confidence, and problems should be explored to determine if families would like additional help or information. Developmental screening and ongoing observation of parent-child communication thus become integral program services, and the information gathered is used for planning with parents. This approach enables us to focus on strengthening parent-child relationships in the everyday operation of our programs.

Parent-child observation is begun at intake into the program or immediately after the child is born. Both the DDST and the age-appropriate Parent-Child Observation Guide are completed as part of the child intake process. The DDST and the PCOG forms are formally completed at six-month intervals as part of the child update.

Major emphasis in the developmental program is placed on staff development. Staff are trained to understand that identification and remediation of a particular child's developmental problems are best accomplished when one understands the child's environment, particularly the child's relationship with the primary caregiver. Structured training is provided in how to complete the PCOGs and to administer the

1. Prepared by Victor J. Bernstein.

DDST. Inservice training and supervision are offered in how to use relevant information from the instruments to plan programs, build staff-parent relationships, and encourage the child's development. Staff are trained to recognize when a referral for specialized services may be required, as in the cases when DDST results indicate that there may be a developmental delay, or, despite DDST results, to refer for services when other factors indicate that this is appropriate.

Staff also help parents become involved in their child's development by having parents join in the administration of the Home Administered Newborn Demonstration, a subset of five items from the Brazelton (13), when the child first comes home from the hospital, and the DDST when the child reaches two months of age. This permits both staff and parents to have an opportunity to focus more directly on the child. Virtually all parents enjoy this process and are eager to discuss their child's development and the activities they can share that will encourage learning. Staff and parents review the child's behavior during the testing and discuss skills and abilities which will be emerging shortly, and staff help parents try age-appropriate play activities that encourage development.

By using continuous observation to become aware of strengths as well as areas that may require more attention in the interaction between parent and child, staff are in a better position to support parents in developing a positive, responsive relationship with their children. Staff discuss the importance of building a strong parent-child relationship with parents as part of orientation; thus, parents view this as a legitimate topic when it emerges in the course of the program. Participants become more confident when staff acknowledge their positive behaviors in addition to identifying the parents' concerns. Finally, staff are taught that their relationship with the parent and child is the most important resource that they have available. Their comments to the parent are thus aimed at strengthening both the parent's relationship with the child and their relationship with the parent.

C. The Connecticut Infant-Toddler Developmental Assessment Program (IDA): An Interactive Model[1]

The Connecticut Infant-Toddler Developmental Assessment (IDA) was designed to meet the need for improved community-based, family-centered, developmental assessment services for handicapped and at-risk infants and toddlers (birth to age three). The IDA was developed in response to recognized assessment issues: many children with developmental disabilities and disorders are not identified in a timely fashion because resources for appropriate assessment are inadequate; many professionals lack expertise with very young children; existing approaches often lack systematic design and fail to regard the multiple lines of development. The IDA is based on a *process* that can be used across disciplines and in the mainstream of child-serving agencies.

The IDA program has a dual focus. It includes an integrated, broad-based approach to developmental assessment for handicapped and at-risk children ages birth to three years. It also encompasses a professional education program (coursework and practicum) that prepares professionals from the developmental disciplines (e.g., nursing, medicine, occupational and physical therapy, social work, speech and language, special education, nutrition, psychology) to conduct IDA assessments.

Description of IDA. The IDA process is a newly organized approach to infant-toddler developmental assessment. The IDA differs from other developmental assessments in the following ways:

1. It is a comprehensive assessment based on a core of knowledge and skills. IDA is designed to assess health and family-social issues, as well as developmental dimensions.
2. It is an integrated clinical approach. The IDA process provides a framework for the integration and review of data from multiple sources.
3. It is designed to facilitate decision making concerning services needed for the family and child, and it results in the preparation of an IFSP.
4. The IDA Scales focus on emotional development and interpersonal relationships (Emotions and Feeling States, Coping, Relationships to Persons) in addition to the traditional skill areas. *The*

1. Prepared by Sally Provence, Joanna Erikson, Susan Epperson Vater, and Saro Palmeri.

developmental component is not a standardized test and it does not stand alone outside the full IDA process.

5. The IDA is conducted by an interdisciplinary team of two practitioners who are credentialed in one of the developmental disciplines and who function as developmental generalists.

The IDA results in an integrated summary of health, family and developmental findings. The developmental profile includes eight domains and considers the interrelationships of the domains. The intent is to provide an assessment of current functioning so that an appropriate program can be planned. The IDA is not used to predict future development.

IDA was designed to be used to improve early identification of children, particularly those experiencing mild to moderate developmental problems. It is intended to bridge the gap between screening and complex tertiary evaluations, but it can be complemented by additional specialty evaluations. IDA practitioners follow accepted guidelines for consultation and referral and work closely with multidisciplinary teams. IDA recommendations result in a plan specifically targeted to the developmental issues identified. Because IDA assessments are conducted by professionals in community-based agencies and are accessible to families, they result in improved case-finding, case management, and continuity of care.

The IDA Components. The *family component* consists of identifying, gathering, and organizing pertinent family information (including parent-child interaction) and considering the relevance of these factors to the child's developmental status. Emphasis is placed on active parental participation throughout all phases of the IDA assessment, including a jointly developed plan.

The *health component* consists of identifying, gathering, and organizing health information and considering its relevance to the child's developmental status. It includes an emphasis on the child and family health history, presence of risk factors and vulnerabilities, and the child's physical growth and development.

The *developmental component* includes information regarding the child's developmental status in eight domains (i.e., gross motor, fine motor, relationship to inanimate objects, language, self-help, relationships to persons, emotions and feeling states, and coping behavior). Emphasis is placed on observation and assessment of the child along multiple lines of development in comparison to what is usually expected at that age. It includes observation of parent-child interaction. A functional profile of the child's developmental status is derived from the findings.

A plan is developed for the child, in conjunction with the family, based on integration of health, family, and developmental findings. The plan, which may serve as an Individualized Family Service Plan (IFSP), may include monitoring, additional consultation, or referral for services.

IDA Professional Education Program and Certification. The IDA Professional Education Program has two major components: a course (40 hours) designed to provide general skills in process and content of infant-toddler developmental assessment, and a supervised clinical practicum designed to assure that practitioners conduct reliable assessments. The practicum takes place under the supervision of a clinical faculty member and includes the evaluation of six children. Two of these assessments are conducted under direct observation, and four are conducted independently and supervised by case review. IDA certification is awarded upon completion of the coursework and practicum. Further information is available from Joanna Erikson at the Yale University Child Study Center.

D. Three State-Wide Tracking Systems[1]

1. Iowa Screening and Tracking System for High Risk Infants[2]

Iowa has developed a statewide screening and tracking system for infants with biological risk factors, through cooperation among and financial support from the Iowa legislature, the state health department, the University of Iowa, community hospitals and other facilities, and the Child Health Specialty Clinics (Title V program for children with special health care needs). The first screening occurs with a review of hospital records to determine eligibility based on such neonatal risk factors as very low birth weight, hypotonia, or seizures. Enrollees are assessed by specially trained pediatric nurse practitioners (PNP) at sites across the state, utilizing

1. For further information about the programs described in this section, see: *Keeping Track: Tracking Systems for High Risk Infants and Young Children.* Washington, D.C., National Center for Clinical Infant Programs, 1989.

2. Prepared by James A. Blackman.

the Denver Developmental Screening Test (DDST), a general physical examination, a focused neurological screening, and an unstructured assessment of psychosocial and environmental factors.

Checkpoints occur at 4, 9, 18, and 20 months of age. If a child fails the DDST, has a questionable result on two successive DDSTs, has a possible neurological abnormality, or, in the opinion of the PNP, warrants consultation, the child is referred for more in-depth assessment. If ongoing specialized developmental services prove to be warranted, the follow-up program no longer retains responsibility for tracking the child; rather, the service delivery system undertakes this role.

Until recently, in recognition of the limitations of this early screening protocol for detection of more subtle developmental dysfunction related to learning and behavior, an extensive psychoeducational battery of tests was administered to all children at kindergarten entry age who passed earlier screenings. Results from more than 360 children suggested that as many as 20 percent of children with perinatal risk factors who are not mentally retarded and do not have cerebral palsy are at risk for difficulties in school. It is not known at this time whether poor performance on the prekindergarten battery of tests predicts school failure, but studies elsewhere have indicated that this population, while generally having IQ scores in the normal range, has a higher than expected need for such special educational assistance as resource room time or occupational therapy for visual-perceptual-motor weaknesses. The five-year testing was discontinued, not because of perceived lack of value, but because of concern about cost, possible redundancy with preschool screening programs conducted by the public education system, and lack of availability of preventive educational programs for preschool children who may have problems which have not yet resulted in actual school failure. It is hoped that with new initiatives related to P.L. 99-457, the transition from medically based to educationally based screening and monitoring will resume.

Although the Iowa High Risk Infant Follow-up Program is accomplishing what it originally intended—namely, to ensure that biologically vulnerable infants receive appropriate intervention services at the earliest possible time and to assist primary care physicians and families in identifying and coordinating medical, educational, and social needs—it is recognized that it serves a small segment of the population which is in need of specialized developmental support. The Iowa Program has served as a model for service delivery and data collection and will likely become one component of a larger statewide identification network.

2. North Carolina High Priority Infant Program[1]

With the passage of P.L. 99-457, the North Carolina High Priority Infant Program is considered the fundamental, statewide method for systematic identification of infants and families who may be served under the provisions of the law. The program represents an important public health response to the increasing numbers of low birth weight infants who survive life-threatening conditions at birth and need to be followed closely at least during their first few years of life, and it is central to the identification and tracking of infants at risk for disabling conditions.

The original program, designed to track infants at risk for developmental delays and to assure that they receive medical supervision, has undergone two major revisions since its inception in 1979. The 1983 revisions to the program established categories of risk criteria and a corresponding protocol of home visits, tracking contacts, and assessments, according to each child's condition and the clinical judgment of his or her High Priority Infant Nurse and primary care provider. Tracking reports were computerized and twelve-month follow-up evaluation for infants with high medical risk was added. In July 1988, the program was revised again to broaden the risk conditions and to require that support services be offered to all enrolled infants. These latest changes were based on routine program reports, anecdotal evaluation from practitioners in the program, and improved knowledge about the process of identification, tracking, assessment, and intervention.

The 1983 program established a means of tracking developmental performance for a subset of the enrolled population. Standardized twelve-month follow-up findings on about 800 enrolled infants who have had one or more of five medical risks in the newborn period (i.e., birth weight under 1501 grams, intracranial hemorrhage, seizures, meningitis, or neurological abnormality due to asphyxia) report that nearly half of these infants had at least one suspected or diagnosed abnormal developmental or neurological finding reported by the end of their first year of life.

Overall, the program data suggest that the North Carolina statewide system of identification and tracking

1. Prepared by Gene Perrotta.

of vulnerable infants is being implemented very competently. However, it is not known whether the system optimally identifies the majority of children who will have disabling conditions by age three. Similarly, no conclusions have been reached about the long-term effectiveness of the program on developmental outcomes of enrolled infants.

The 1988 revisions in the program will extend tracking and developmental assessment to age three years for infants not otherwise served by any of North Carolina's special programs (i.e., Developmental Evaluation Centers and Early Childhood Intervention Services). These changes also require intermittent parent-child assessment by High Priority Infant Nurses, including methods adapted from Barnard's Nursing Child Assessment Training (NCAST) approach. Nurses will report the developmental conditions of all enrolled infants at several points in time.

3. Washington State High Priority Infant Tracking Program[1]

The goal of the Washington State High Priority Infant Tracking Program (HPIT) is to establish a statewide system for the identification and tracking of infants at risk for poor health or developmental outcomes. The objectives are:

1. To help parents keep their child under the care of a primary physician.
2. To promote early identification of infants requiring further evaluation or services.
3. To assist in planning for the health and educational needs of the children of Washington State.

Any infant less than 30 days of age who meets one or more specific risk criteria in established, biological, or environmental risk categories is eligible, regardless of family income. Most infants (85 percent) are identified in local community hospitals, by nursing, medical, or social services staff. Regional perinatal centers also participate. When an infant is identified as a candidate for tracking, the parent(s) and the primary care provider must give permission in order for the next step to occur: tracking.

After identification and enrollment into the HPIT Program, the lead agency will contact the primary health care provider or agency (e.g., a pediatrician, public health clinic, or a community clinic) at 6, 12, 18, 24, and 36 months through a mailed questionnaire. This questionnaire obtains critical information for the ongoing medical and developmental monitoring of the child. The date of the last well child visit, specific information on the child's health and developmental status, and information regarding community services are obtained.

When a family fails to return to their "medical home" for a well child visit, active follow-up is initiated. The local community lead agency will attempt to reconnect the family with a primary health care provider through phone calls, letters, or home visits. Barriers to health care access are identified and attempts are made to resolve them. Only after extensive attempts at follow-up have been exhausted will a case be closed to tracking.

The HPIT Program is free to families who wish to participate. Local communities can receive 70 percent of the projected costs of the program from the Bureau of Parent Child Health Services. However, the HPIT Program cannot pay for well child visits, transportation, or intervention services. The HPIT Program provides only identification, monitoring, and surveillance services.

The HPIT Program connects high priority infants and their families to services in their communities in three ways. First, early identification of infants with risk factors can facilitate discharge planning that might include referral to community services such as parent-to-parent support groups, specific follow-up clinics, or service providers. Second, the HPIT Program has been shown to increase the number of maternal child health nursing referrals through the local county health district. Third, each completed tracking form is reviewed by the lead agency. Infants and families that may require further evaluation or intervention can be identified in this manner. Collaborative referrals for these services can be facilitated through the lead agency and the primary care provider.

1. Prepared by Patti J. Biro.

Appendix II

Processes and Procedures of Screening and Assessment

Appendix II consists of two parts: a brief essay and illustration concerning how to use interview data in the process of screening and assessment, and a matrix that describes various tests and measurements. The Task Force chose not to recommend specific tests or procedures. Rather, our approach was to make available a number of representative references and examples, focusing on assessments in all areas of growth and development. Excluded from this list are measures that are used primarily by researchers and those that focus on family functioning. The latter measures are discussed in the *Guidelines and Recommended Practices for the Individualized Family Service Plan* (32). Once the decisions implicit in the process described earlier in this document are made, these resources can be used to select appropriate instruments and approaches. Additional references about tests and testing, other than those in the matrix, include those by Bettenburg (10), Buros (17), Dunst (19), Gibbs and Teti (27), Keyser and Sweetland (33), Mitchell (49), Sattler (64), and Wachs and Sheehan (72). For further information about neonatal testing, see Francis, Self, and Horowitz (24), Korner et al. (39), Molfese (51), and Vietze and Vaughan (71); guidelines for preschool developmental screening are presented in Meisels (46).

Whatever tests or procedures are used, it is essential that the minimum conditions described in the boxed insert on page 00 be met. If the guidelines and rationale for screening and assessment described in this document are followed, then measurement activities in early childhood—whether clinical or psychometric—can be used to help children and families receive services and to assist states in meeting the mandates of P.L. 99-457.

Cautions Regarding Use of Screening and Assessment Instruments

1. The tests should be used in the context of the guidelines described in this document.
2. It is the responsibility of the user to apply traditional standards to psychometric devices as delineated by the American Psychological Association et al. (2).
3. Tests normed on one group of children should not be considered valid for another group without further standardization.
4. Training and supervision are essential elements of a testing program.
5. Use of a psychometric instrument does not preclude the need for multiple sources of data and/or clinical information as well.
6. Very few tests are actually known to be free of cultural bias. Care should be taken in administering tests to members of minority groups.

A. On Interviewing: Principles and an Illustration[1]

Emphasis has been placed throughout this document on the importance of the child's parents in all assessment activities and subsequent planning. The reasons for the strength of that position do not require repetition. From the time of the first contact with parents, whether by phone, letter, or in person, service providers should keep in mind ways in which parents can be involved effectively in the assessment process they have sought for their infant or young child.

Effective interviewing is a necessary component in medical, developmental, and psychological diagnosis. Practitioners are likely to be well versed in focusing on the "facts" about the child and the developmental milestones or deviation in their area of expertise. But skillful and useful interviewing, or history taking as health professionals designate it, must go beyond the chief complaint and review of symptoms. In our view it is impossible to overemphasize the importance of the interviewer's attentive interest, empathic listening, warmth, and courtesy. These qualities and attitudes facilitate the development of information about the child

1. Adapted by Sally Provence from an interview process developed by Audrey Naylor and Sally Provence, Yale Child Study Center.

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and the working relationship with the parents, and acknowledge the central role that parents play in the health and welfare of their child.

The diagnostic process begins the moment of the first contact with the parent when one begins to learn about the infant/child and the parental concerns. The courtesy, or lack of it, of the person who has the first contact with the parents sets a favorable or unfavorable tone. A forbidding, user-unfriendly encounter does not help. How parents and child are received either facilitates or hinders the process.

The initial interview should be approached with the understanding that the majority of parents come for the evaluation of their child under the stress of anxiety and often guilt, anger, and feeling of helplessness. They may be having their first contacts with a diagnostic team, or this may be another of many experiences—often unsatisfactory or traumatic—in trying to find answers to their questions and services for their child.

It is important to make sincere efforts to include both parents in the assessment interviews. Access to both parents is vital because their involvement will add to understanding the child and family and because the absence or nonparticipation of one parent may weaken the effectiveness of any treatment or other remedial plan for the child. One tries to make clear from the beginning that the parents' help in the assessment is essential because they have expert knowledge of their child and thus have a critical role in the work to be done. In addition, one attempts to elicit and engage their strengths and not focus primarily on whatever their shortcomings as parents may be.

Joint interviewing provides an opportunity to gain an impression of how the parents relate to one another. Which one takes the lead? Does one dominate the interview? Do they disagree in important ways about the child? If so, do they do so with anger or contempt, or do they seem to respect one another while disagreeing? Do they both feel that the evaluation is necessary, or is one opposed or very reluctant? In a joint interview parents sometimes acknowledge to one another for the first time worries about their child that have never before been discussed.

The interviewer should have several general goals in mind as the work begins:

1. To create a comfortable and benevolent atmosphere in which the parents feel supported in a difficult experience, and respected not only for whatever strengths and coping capacities they bring to the situation, but specifically for the courage it takes to come despite their fears about what they will learn.
2. To develop—not through a mechanistic question-and-answer process, but through sensitive listening and questioning and observing—as full a picture as possible of the parental concerns, the natural history of the problems they describe, and the important family life events and feelings surrounding them.
3. To develop a comprehensive account of the child's development both historically and currently, including areas of good as well as of poor functioning.
4. To develop an account of the physical health of the child and other members of the family, together with their associated problems and feelings.
5. To assess the family life as a child-rearing environment, including the functioning of each adult as a parent of the child in question. This includes their perceptions of and feelings about the child, and the role the child seems to be assigned in the family constellation. This area is one that particularly calls for sensitivity and understanding of the cultural value systems of the family.
6. To do all of the above with full awareness that parental feelings attached to the objective, external events are very important in understanding the child and in making appropriate recommendations.
7. To engage regularly during the evaluation process in exchange of significant information and impressions with other staff members who see the child and family, so that the thinking of the team members and the next step of each in the process will be influenced appropriately by what is unfolding.
8. To share with the parents what is learned about the child and recommendations for further evaluation or intervention.

Subject Areas and Content of Interviews

The following material illustrates some of the subjects proven to be of relevance in assessing the development of infants and young children. *It is not intended as an interview form.* Expert interviewing is based more on the concerns and priorities of the parents and the child than on any preconceived agenda. Instead, this is offered as a reminder to the interviewer of the broad array of factors that may be important in assessing an infant or young child.

1. **Parents' View of the Evaluation.** Are they here out of their own concern and motivation, or on the advice

of someone else, or are both factors prominent? What do they see as the purpose of the evaluation? What do you sense are their feelings about it? What areas do the parents want assessed?

2. **Reasons for Referral.** Here give the reasons of the referring person.

3. **Previous Diagnostic Studies.** Include date, place, by whom done, and results. The data may be summarized from reports received. Otherwise, give information supplied by parents. In either case, what is the parents' understanding of the findings and implications? What are their reactions?

4. **Parents' Concerns about Child and Ideas about Causes of the Problems.** Include information about the history of the parents' concerns, when they first became worried, and about what. Have the problems changed or increased since they began? What have they tried to do to help with the problems? Asking about increased family stress at the time problems emerged often helps parents to think more incisively than before about causation, which in turn helps them to feel less helpless, less the victims of mysterious forces.

5. **Pertinent Family Information.** This includes information and initial impressions about relevant social, cultural, and environmental factors, the marital relationship, the parents' relationships to their parents, social class information, number of moves and reasons for them, financial pressures, etc. If the initial interview suggests, for example, marital or other family discord, further exploration may need to be deferred until parents are feeling more comfortable with the interviwer and the evaluation of the child has progressed beyond the beginning stages.

6. **Health History of Family.** Include families of both parents. Physical health is usually easier for parents to discuss in initial contacts than mental health, seizure conditions, retardation, or learning problems. Tact may require later interviews if the data appear to be pertinent in the particular case. Depending also on the nature of the child's problems, it may be relevant to know about other pregnancies and their outcome, including maternal complications of pregnancy, abortion, fetal death, etc.

7. **Physical Environment.** Living conditions and the kind of space for family life should be asked about as they relate to such factors as overcrowding, physical condition of the housing, and freedom from serious hazards. Is there safe outdoor play space for the child if he or she is old enough to need it?

8. **Pregnancy, Labor and Delivery.** Include the facts as parents present them, but in addition, the impact on the parents of the pregnancy, of associated stress, and of very difficult or prolonged labor/delivery.

9. **Neonatal Period.** Ask about the initial reaction of each parent to the newborn and to the first weeks. What was the baby's condition? How did it affect parental reactions to the baby?

10. **Health of Child.** This includes growth, handicapping conditions, illnesses and treatment, operations, accidents, immunizations, etc. Include child and parent reactions.

11. **Separation from Family.** This includes age of child, duration of typical separations, reasons for and arrangements for substitute care, effect on the child, parents' attitude about separation, and the child's reactions to it.

12. **Feeding and Oral Behavior.** This may or may not be a highly relevant area requiring detailed knowledge of the history and current status. In some cases it is clearly not important to know this in detail, and simply determining whether the child now has a good appetite, eats a reasonable variety of foods, and is within the norms for weight and height will be enough. But many troubled parent-child relationships start with early feeding problems which may or may not continue currently. If in doubt, develop and record detailed data about the feeding experience, including how it was experienced by the mother. Include also the child's oral behavior not related to feeding and parental reactions to such behavior as thumbsucking, use of pacifier, mouthing toys or other objects, biting, and ingestion of inedible substances.

13. **Elimination and Toilet Training.** As with feeding, data recorded may be very limited if there is no current problem with age-appropriate toileting.

14. **Sleep.** Record not only data about problems reported, but the sleep-wake pattern, nap behavior, and an estimate of whether amount of sleep is too little or too much for the age of the child. In either case, the question is whether and how sleep is related to the child's problems.

15. **Activity and Motor Development.** Include parents' account of both gross and fine motor skills and how they are used, and child's tendency to be over- or under-active. Indicate whether parents see the child's motor development or activity as a problem.

16. **Awareness of and Adaptation to the Social Environment.** When appropriate to the age of the child

include self-help skills, recognition of family roles and routines, knowledge of where common household items are kept, ability to follow simple directions, and reactions to family outings or visitors.

17. **Coping Behavior.** Include the parents' description of how the child attempts to cope with discomfort, frustration or other distress. How does the child use skills to acquire something wanted or avoid something disagreeable? To what extent does the child use motility, speech, social interaction, or cognitive activity to develop coping strategies?

18. **Language and Communication.** For infants in the first year include sounds the baby is making and words, if any. For older children include extent of vocabulary, use of word combinations or complete sentences, and use of pronouns. Estimate child's use of language for communication. Listen for and record any evidence of articulation problems, echolalia, or other bizarre language. Estimate degree to which parents talk to child and value verbal communication. If language appears to be very delayed, how does the child communicate his/her wishes?

19. **Toys and Play.** Include kinds of toys and play materials available and chosen. It is not enough to record what the child likes to play with, such as cars and trucks or dolls. Record specifically what the child does with each. If parents cannot give specific answers in the first interview, the question may cause the parent to observe more carefully and be able to comment on this subject later. Include the child's capacity to play alone, to play imaginatively, and to play with other children. Does the child have a favorite toy or other possession, or something else that must be available in times of need and at bedtime?

20. **School or Other Social Experiences outside the Home.** Record what is indicated by the parent, and, if it is appropriate, ask permission to be in communication with the director or teacher of the child's nursery school, day care, or other program.

21. **Feelings and Moods.** Ask parents for a description of the variety and range of feelings expressed by the child: signs of comfort, discomfort, pleasure, joy, anger, affection, hostility, depression/sadness, and how they are expressed. What is likely to upset the child? What makes him feel better? Asking parents how their child seems to feel about himself, if he is in his second year or above, is often very informative.

22. **Specific Fears, Anxieties, and Sensitivities.** Include both fears and absence of appropriate fears. Evidence of anxiety may be in marked overactivity, extreme underactivity, or dangerous behavior undertaken "fearlessly," as parents may describe it. Include also unusual sensitivity to sounds, light, tactile experiences, change in routines. Describe the child's and the parents' reactions and handling of such stresses.

23. **Aggressive Behavior.** In what ways does the child behave aggressively toward parents, siblings, playmates, or others? How do parents react to this? Does the child engage in any self-hurting behavior? Is he/she able to take a stand for himself if attacked by another?

24. **Relationships to Others.** Does the child have a developmentally appropriate, differentiated, and selective relationship to each family member? Describe. What does the child seek from each parent and older siblings? Is there a strong preference for one parent, or for one of the siblings? How does the child react to extended family members, family friends, and strangers? If a child is indiscriminately friendly with strangers, note this.

25. **Preparation of Child for Evaluation.** Did parents bring up the matter of how they should prepare their child for the evaluation? Did you introduce the subject? In either case, what were the parents' ideas about what to tell their child? Did you offer a suggestion? (Parents usually need suggestions.)

26. **Other.** Include facts and/or impressions not recorded elsewhere.

27. **Formulation.** Give a descriptive working statement that represents your best thinking based on the information and impressions currently available to you. This will be affirmed or modified as the assessment is completed.

B. Selected Infant and Preschool Assessment Instruments

1. Selected Infant and Preschool Screening Tests
2. Selected Developmental Inventories
3. Selected Cognitive Assessment Devices
4. Selected Communication Assessment Instruments
5. Selected Motor Assessment Devices
6. Selected Social/Emotional Assessment Devices
7. Selected Adaptive/Self-Help Assessment Devices

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Caution is advised in the administration and interpretation of assessment measures with young children. Due to the dynamic nature of development, tests provide only an indication of a child's skills and abilities at a given time. Professional judgment, as well as additional information from parents, health professionals, teachers, etc., should be utilized when making eligibility or placement decisions. It should also be noted that the instruments listed represent typical instruments; the list is not intended to be comprehensive; and comments reflect authors' review and analysis

[1]Work reported here was supported in part with funds from the U.S. Department of Eduation (Contract # 300-85-0173) to the Early Intervention Research Institute at Utah State University, Logan, Utah.

SELECTED INFANT AND PRESCHOOL SCREENING TESTS

ASSESSMENT DEVICES	AGE RANGE	TIME IN MINUTES TO ADMINISTER	RELIABILITY	MEAN & SD	TYPE							VALIDITY	PURPOSE / DESCRIPTION / COMMENTS
					CRITERION	NORMATIVE	GROUP	INDIVIDUAL	VERBAL	NON-VERBAL	SCREENING		
Denver Developmental Screening Test (DDST) 1975	0 - 6	20	TR .66 to .93			X		X			X	Concurrent validity with Stanford-Binet, Cattell, and Bayley = .74 to .97 *Sensitivity = .80 **Specificity = .90	The DDST is the best known screening instrument. It screens across four developmental areas: personal-social, fine motor-adaptive, language, and gross motor. This test significantly under refers children.
Developmental Activities Screening Inventory (DASI-II) 1984 Pro-Ed	0 - 6	20-40	not reported		X			X		X	X	Concurrent validity .95 with DDST No sensitivity or specificity data	This test was designed for use with pre-school handicapped children. It is non-verbal in format. There are not enough data on it to validate its usefulness.
Developmental Indicators for the Assessment of Learning-Revised (DIAL-R) (1983).Childcraft Educational Corporation	2 - 6	25	T/R = .87			X		X			X	Correlations with Stanford-Binet: Motor - .28; Concepts = .50; Language = .33; Overall = .40	This is a team-based screening test with weak predictive validity. The Communications/Language section would tend to underrefer children for further evaluation in this area.
Early Screening Inventory (ESI) (1983) Teachers College Press	3-6	15-20	IR = .91 TR = .91			X		X			X	Concurrent validity with the McCarthy Scales of Children's Ability = .73 *Sensitivity x = .92 **Specificity x = .95	The ESI serves as a quick inventory to identify those children who may need further evaluation. This test has excellent psychometric properties and has a high "hit" rate, a quality lacking in many screening tests. A Spanish version is being standardized.
Miller Assessment for Preschoolers (MAP) (1982). KID Technologies	2 - 9 to 5 - 8	20 - 30	TR = .81			X		X	X			Content validity.	Provides a normative overview of a child's overall developmental status. All 40 items must be administered to score the test. Three categories are covered: sensory/Motor cognition, and combined abilities.
Minneapolis Pre-School Screening Instrument (1980) Minneapolis Public Schools	3 years 7 mos to 5 years 4 mos.	15	TR = .92			X		X			X	Concurrent validity with Stanford-Binet = .71 *Sensitivity = .63 **Specificity = .93	The MPSI is a 50-item test with an emphasis on classroom readiness tasks. The test underrefers children at risk.
Minnesota Child Developmental Inventory (MCDI) (1972) Behavior Science Systems	6 mos-6 years	20-30	X= .90			X		X			X	*Sensitivity X= .76 **Specificity X= .76	The MCDI is a 320 item Parent Report Inventory. It over-refers children not at risk. Some would question its use as a screening inventory.

*(TR) = Test-retest (SH) = Split-Half (AF) = Alternate Form (IR) Inter-Rater (SEm) = Standard Error of Measurement

* refers ro proportion of children at risk correctly identified.

** refers to proportion of children not at risk who are correctly excluded from further testing.

SELECTED DEVELOPMENTAL INVENTORIES

ASSESSMENT DEVICES	AGE RANGE	TIME IN MINUTES TO ADMINISTER	RELIABILITY	MEAN & SD	TYPE						VALIDITY	PURPOSE / DESCRIPTION / COMMENTS
					CRITERION	NORMATIVE	GROUP	INDIVIDUAL	VERBAL	NON-VERBAL	SCREENING	
Battelle Developmental Inventory (BDI) (1984) DLM Teaching Resources	0 - 8	45 - 90	TR = .71 to 1.0			X		X	X		X	Concurrent validity .66 with PPVT-R .66 with Pre-School Language Scale.	The BDI consists of 341 items grouped in 5 domains: (1) Adaptive, (2) Cognitive, (3) Communication, (4) Motor, and (5) Personal-Social. Is useful in depicting child progress in intervention programs. More validity data is becoming available.
Brigance Diagnostic Inventory of Early Development (1978) Curriculum Associates	0 - 7	45 - 60	N. A.	N. A.	X			X	X			Consensual validity by experts.	The Brigance assesses pre-ambulatory motor skills and behaviors, gross motor skills and behaviors, fine motor skills and behaviors, self-help skills, pre-speech and language skills, general knowledge and comprehension, and readiness. The items lend themselves readily to educational programming. Validity data not reported in manual.
Callier-Azusa Scales (1978) University of Texas	0 - 5	30 - 40	TR = .66 to .97	N. A.	X			X		X		Content validity only.	A scale designed for use with deaf-blind and severely handicapped. Eighteen subscales assess five areas: (1) Motor Development, (2) Perceptual Abilities, (3) Daily Living Skills, (4) Cognitive, Communication, and Language, (5) Social Development. Ratings are obtained through direct observation.
Developmental Profile II. (1980). Psychological Developmental Publications	0 - 9	20 - 30	TR = 1.71 IR = .50 - .92			X		X	X			Content validity only.	A developmental scale that uses parent report to document growth in 5 areas: physical, self-help, social, academic, and communication. Because of weak standardization, it should not be used for classifying children for specific programs.
Gesell Developmental Schedules (1940). Nigel Cox (Cheshire, (CT).	1 month - 6 years	45 - 60	N. A.	N. A.	X			X	X			Consensual validity and content validity.	Provides a developmental diagnosis by assessing the quality and integration of children's development in 5 areas: adaptive, fine motor, gross motor, personal-social, and language.
Learning Accomplishment Profile (LAP-D) (1977) Kaplan School Supply	6 months to 6 years	60 - 90	TR = .82 to .98		X			X	X			Content validity only.	The LAP consists of 323 items in five domains: (1) Cognitive, (2) Fine Motor, (3) Gross Motor, (4) Language/ Cognitive, and (5) Self-Help. The test is designed to evaluate a child's entry skills, and validate the effects of an intervention program. It is probably least useful in the last category because of inadequate norms.
Smith Johnson Non-Verbal Performance Scale (1982). Western Psychological Corp.	2 - 4	30 - 45	TR = .27 to .81			X		X	X	X		Content validity and correlations with Leiter.	Provides a useful format for observaton of tasks frequently included in preschool curricula. Qualitative information is also obtainable. One of the few non-verbal tests available.
Uniform Performance Assessment System (UPAS) (1981) Charles E. Merrill	0 - 6	60 - 90	TR = .88 to .95	N. A.	X			X				Content validity only.	The UPAS assesses four curricular areas: (1) Communication, (2) Gross Motor, (3) Preacademic, (4) Fine Motor, and (5) Social/Self-Help areas of development. The UPAS is best used to monitor a child's performance through a curriculum.

*(TR) = Test-retest (SH) = Split-Half (AF) = Alternate Form (IR) Inter-Rater (SEm) = Standard Error of Measurement

SELECTED COGNITIVE ASSESSMENT DEVICES

ASSESSMENT DEVICES	AGE RANGE	TIME IN MINUTES TO ADMINISTER	RELIABILITY*	MEAN & SD	TYPE							VALIDITY	PURPOSE / DESCRIPTION / COMMENTS
					CRITERION	NORMATIVE	GROUP	INDIVIDUAL	VERBAL	NON-VERBAL	SCREENING		
Bayley Scales of Infant Development (1969) Psychological Corp.	2 months to 30 months	Mental: 25 - 30	Mental Scale: .61 to .93	$\bar{x}$ = 100 SD = 16		X		X	X	X		Correlation of .57 was obtained with the Stanford-Binet for a sample of 120 (ages 24 to 30 months) children in the standardization group.	One of the most widely used measures of infant development available. The Mental Scales evaluates a variety of activities and processes, including shape discrimination, sustained attention, purposeful manipulation of object, imitation/comprehension, etc. (also see motor).
Kaufman Assessment Battery for Children (KABC) (1983), American Guidance Service.	2-6 to 12-6 Years	90	Ages 2-1/2 to 4 Mental Processing Composite (MPC) = .90 Achievement = 93 Ages 12 and Over MPC = .91 Achievement = .97	$\bar{x}$ = 100 SD = 15 for four Global Scales		X		X	X	X		Concurrent validity ranging from .60 to .79 between the MPC and other intelligence tests (WISC-R, Stanford-Binet, and the McCarthy Scales) (GCI). From .75 to .86 between the achievement scales and other intelligence tests.	The K-ABC contains 16 subtests, 10 measuring the MPC and 6 achievement. The MPC is separated into a dichotomy of sequential processing (3 subtests) and simultaneous processing (7 subtests). The game-like nature of the subtests help motivate preschoolers. Socio-cultural norms are provided for minority subjects.
McCarthy Scales of Children's Abilities (1972) Psychological Corporation	2-6 to 8-6 Years	45 to 50 for children below 5; 60 for older children	General Cognitive Index (GCI) = .93 Memory & Motor Scales = .79 to .88 (SH) GCI = .90 Memory & Motor Scales = .69 to .89			X		X	X	X		Concurrent validity is acceptable, with correlations ranging from .45 to .91 (median of .75) using the Stanford-Binet, WISC-R, and WPPSI as criteria.	The McCarthy Scales provides a general level of intellectual functioning (GCI) and a profile of verbal ability, nonverbal ability, number aptitude, short-term memory, and motor coordination. The scales contain 18 subtests grouped into one or more of six scales. Five verbal subtests and three quantitative tests are included in the GCI.
Stanford-Binet (Fourth-Ed.) (1985) Riverside Publishing	2 years to Adult	60 to 90	Ages 2 to 5 .74 to .88 Ages 6 to 13 .74 to .91 Ages 13 to 17 .85 to .93	$\bar{x}$ = 100 SD = 16		X		X	X	X		Correlations obtained between the Stanford-Binet and the Bayley Scales .57 Between Stanford-Binet and KABC .82 to .89.	Stanford-Binet provides a continuous scale for assessing cognitive development from age 2 to adult. Assesses verbal reasoning, quantitative reasoning, abstract/visual reasoning, and short-term memory.
Uzgirus Hunt Ordinal Scales of Infant Psychological Development (1975), University of Illinois	0 - 18 months	15 - 60	IR = .84 to .97		X			X	X			No validity data reported. Test is based on Piagetian constructs.	This test is constructed following Piagetian sequences: I. Visual Pursuit to object permanence, II Instrumental Action, III. Vocal & Gestural Imitation, IV Operational Causality, V. Object Relations in space, & VI. Developing Object Relations Schema.

*(TR) = Test-retest (SH) = Split-Half (AF) = Alternate Form (IR) Inter-Rater (SEm) = Standard Error of Measurement

SELECTED COMMUNICATION ASSESSMENT INSTRUMENTS

ASSESSMENT DEVICES	AGE RANGE	TIME IN MINUTES TO ADMINISTER	RELIABILITY	MEAN & SD	TYPE							VALIDITY	PURPOSE / DESCRIPTION / COMMENTS
					CRITERION	NORMATIVE	GROUP	INDIVIDUAL	VERBAL	NON-VERBAL	SCREENING		
Birth to Three Developmental Scale (1979). Teaching Resources	0 to 3 years	30	IR = .88 - .99		X			X	X	X	X	.70 - .80 with other language scales.	The Birth to Three Developmental Scale is designed for easy identification of developmental delays in four behavioral categories. It is most useful in identifying strengths and weaknesses and leads directly to educational programming. The test items are designed to be fair to individuals from culturally diverse backgrounds.
Early Language Milestone Screening Scale (ELM) (1983). Modern Education Corp.	0 - 3 years	1 - 3				X		X	X	X		Content validity only.	A communication screening test that covers auditory expressive, auditory receptive, and visual skills. Each behavior is developmentally sequenced and percentiles for each age are given.
Expressive One Word Picture Vocabulary Test (EOWPVT) (1979). Academic Therapy Publications	2 to 12 years	5 - 10	SH = .87 to .96			X		X	X		X	Content validity correlations with Peabody Picture Vocabulary Test - .29 to .59.	Designed to assess verbal intelligence by means of acquired expressive picture vocabulary in a picture naming format. Useful in determining the quanity of expressive vocabulary.
Peabody Picture Vocabulary Test (PPVT-R) (1981). American Guidance Service	2 1/2 years to adult	10 - 20	.77 average for all studies	$\bar{x}$ = 100 SD = 15		X		X	X	X	X	Concurrent validity .70 with Stanford-Binet and WISC.	The PPVT may be best described as a test of receptive vocabulary. It is most useful in longitudinal studies and in documenting changes in receptive vocabulary due to a language intervention program. Has excellent reliability and validity when used in this restricted way.
Receptive-Expressive Emergent Language Scale (REEL) (1976) University Park Press	0 - 36 months	30				X		X	X	X		Content validity only.	Developed to fill the need for an instrument which could assess receptive and expressive language skills in very young children.
Receptive One Word Picture Vocabulary Test (ROWPVT) (1985). Academic Therapy Publications	2 to 12 years	10 - 15	SH = .87 to .96			X		X		X			Assesses children's single word receptive vocabulary by requiring only a picture pointing response. Has specific clinical utility for non-verbal children.
Sequenced Inventory of Communication Development (SICD) (1984) University of Washington	4 - 48 months	Dependent upon age 30 - 60	TR = .90 I R = .90	$\bar{x}$ = 100 SD = 15		X		X	X	X		Reviewers emphasize construct validity only.	A useful instrument in identification of broad areas in communication development that require intensive clinical prescriptive development. The SICD tests developmental milestones in areas of high validity, if one views communication development as best measured in terms of its inter-active function among children and their environmental audiences and initiators. Particularly helpful in placing children along developmental grids.
Test of Early Language Development (TELD) (1981) Western Psychological Ser.	3 - 8	15 - 20	TR = .90	$\bar{x}$ = 100 SD = 15		X			X	X		.66 - .80 with Test of Language Development.	The TELD assesses language content and syntax morphology and phonology. Syntax and morphology are assessed both receptively and expressively. Language quotients, percentiles, and language ages are reported.

*(TR) = Test-retest (SH) = Split-Half (AF) = Alternate Form (IR) Inter-Rater (SEm) = Standard Error of Measurement

SELECTED MOTOR ASSESSMENT DEVICES

ASSESSMENT DEVICES	AGE RANGE	TIME IN MINUTES TO ADMINISTER	RELIABILITY	MEAN & SD	TYPE						VALIDITY	PURPOSE / DESCRIPTION / COMMENTS
					CRITERION	NORMATIVE	GROUP	INDIVIDUAL	VERBAL	NON-VERBAL	SCREENING	
Bayley Scales of Infant Development (1969) Psychological Corp.	2 months to 30 months	Motor: 20-25	Motor Scale: .68 to .92. However, reliabilities tend to be lower for the first 4 months (ages 2 through 5 months)	$\bar{X}$ = 100 SD = 16		X		X		X		Correlation of .57 was obtained with the Stanford-Binet for a sample of 120 (ages 24 to 30 months) children in the standardization group. No correlations for Motor Scale are reported individually.	One of the most widely used measures of infant development available. The Motor Scales covers gross and fine motor abilities, such as sitting, standing, walking, and grasping (also see Mental Scale).
Bruininks-Oseretsky Test of Motor Integration (1967). Follett Publishing Company	4-1/2 to 14-1/2 years	45-60	Battery Composite: .86 to .89 Fine and Gross Motor Composite: .68 to .88 (TR)	Composite Scores: $\bar{X}$ = 50 SD = 10 Individual Subtests: $\bar{X}$ = 15 SD = 5		X		X		X		Construct validity was evaluated by the following methods: (1) relation of test scores to CA, (2) internal consistency of subtests, (3) factor structure of individual items. Correlations (product-moment) between subtest scores and CA for standardization sample range from .57 to .86.	The test contains 46 items with a framework of 8 subtests. Four subtests measure gross motor skills, 3 measure fine motor skills, and 1 measures both. Composite scores are obtained for the gross motor subtests, fine motor subtests, and total battery. A short form is also available that can be used as a brief survey of motor proficiency.
The VMI: Developmental Test of Visual Motor Integration (1989). (3rd Rev.) Modern Curriculum Press.	3 to 18 Years	10 - 15	For 171 children: Boys = .83 Girls = .87 (TR) .90's (IR)	Given by age.			X	X		X		Concurrent validity of the test with CA is .89, with WISC-R is .49 (verbal) and .56 (performance), with PMA is .59, with Frostig is .72.	The VMI contains 24 geometric forms which the child is asked to copy and are arranged in order of increasing difficulty. The total raw score is converted into developmental equivalents and into scale scores, with separate tables for boys and girls.
Milani-Comparetti Motor Development Screening' Scale (Modified Edition) (1984). Meyer Children's Rehabilitation Institute	0 - 2 years	10			X			X				Content validity only.	Assesses control of head and body, protective responses, movement from one position to another, locomotion, reflexes, and the child's state. It can be repeated to monitor trends in motor development.
Peabody Developmental Motor Scales (PDMS) (1983) Teaching Resouces Corp.	Birth to 83 months	45 to 60	Gross Motor = .95 Fine Motor = .80 TR Gross Motor = .97 Fine Motor = .94 (IR)	Scaled Scores $\bar{X}$ = 500 SD = 100 Develop. Motor Quotients (DMQ) $\bar{x}$ = 500 SD = 15	X			X		X		Concurrent validity between the PDMS Fine Motor total and the Bayley Mental and Psycho-Motor Scales are .78 and .36, respectively.	The PDMS is divided into two components: the Gross Motor and Fine Motor Scale. The Gross Motor Scale contains 170 items divided into 17 age levels (10 items per level) and the Fine Motor contains 112 items divided into 16 age levels (6 or 8 items per level). The Gross Motor items are classified into five skill categories: reflexes, balance, non-locomotor, locomotor, and receipt and propulsion of objects. The Fine Motor scale items are classified into four skill categories: grasping, hand use, eye-hand coordination, and manual dexterity.

SS *(TR) = Test-retest (SH) = Split-Half (AF) = Alternate Form (IR) Inter-Rater (SEm) = Standard Error of Measurement

SELECTED SOCIAL / EMOTIONAL ASSESSMENT DEVICES

ASSESSMENT DEVICES	AGE RANGE	TIME IN MINUTES TO ADMINISTER	RELIABILITY	MEAN & SD	TYPE							VALIDITY	PURPOSE / DESCRIPTION / COMMENTS
					CRITERION	NORMATIVE	GROUP	INDIVIDUAL	VERBAL	NON-VERBAL	SCREENING		
Burk's Behavior Rating Scales: Preschool and Kindergarten (1977). Western Psychological Services	3 - 6 years	20 to 30	.74 to .96 on normal children	N.A.		X		X				A panel of 26 kindergarten teachers judged the appropriateness of each item.	The Burk's consists of 105 descriptive statements to be rated by parent or teacher. Eighteen scales are measured: Excessive...self-blame, anxiety, withdrawal, dependency, suffering, sense of persecution, aggressiveness, and resistance. Poor...ego strength, physical strength, coordination, intellectuality attention, impulse control, reality contact, sense of identity, anger control, and social conformity.
Carolina Record of Infant Behavior (CRIB) University of North Carolina	0 - 3	10		N.A.	X	X		X				Research edition only available. One of the few infant behavior tests.	This test represents an attempt to modify the Bayley Behavior Test to make it useful in assessing infants.
Child Behavior Checklist Achenbach (1986) University of Vermont	2 and up	30 to 40	TR = .87 to .89 Interparent Correlations = .87 to .74			X		X				Demonstrated that groups identified as disturbed had significantly higher behavior problem scores than did normal comparison groups. Over controlled (internalizing) and under controlled (externalizing) syndromes have been validated.	The Child Behavior Checklist is designed to record in a standardized format the behavioral problems and competencies of children. The checklist can be self-administered or administered by an interviewer. Separate editions of the profile are standardized for each sex at age 2 to 4, 6 to 11.
Joseph Pre-School and Primary Self-Concept Screening Test (1979) Stoelting Co.	3-1/2 to 9	7	TR = .87 SH = .59 - .81	N.A.		X		X	X	X		Concurrent validity = .66 with Slosson, .69 with YMI.	This test contains 15 items which asses self concept. May be used as a screening or diagnostic instrument with handicapped preschoolers. Easy to administer and score.
Test of Early Social-Emotional Development (TOESD) (1984). Pro-Ed	3 - 8	30 - 50	TR = 70 - 85			X		X	X			Concurrent validity. Correlates well with other behavior measures.	The TOESD is composed of 4 components: (1) a student rating scale, (2) a teacher rating scale, (3) a parent rating scale, and (4) a sociogram. Recently normed and provides percentiles and standard scores.

*(TR) = Test-retest (SH) = Split-Half (AF) = Alternate Form (IR) Inter-Rater (SEm) = Standard Error of Measurement

SELECTED ADAPTIVE - SELF HELP ASSESSMENT DEVICES

ASSESSMENT DEVICES	AGE RANGE	TIME IN MINUTES TO ADMINISTER	RELIABILITY	MEAN & SD	TYPE							VALIDITY	PURPOSE / DESCRIPTION / COMMENTS
					CRITERION	NORMATIVE	GROUP	INDIVIDUAL	VERBAL	NON-VERBAL	SCREENING		
Adaptive Performance Instrument (API) (1980) Office of Special Education and Rehabilitation Services	0 - 9	Open	No Data	N. A.	X			X		X			The API measures functional skills in severely and multiply handicapped infants and young children. Assesses 8 domains: (1) Physical Intactness, (2) Reflexes and Reactions, (3) Gross Motor, (4) Fine Motor, (5) Self-Care, (6) Sensorimotor, (7) Social, and (8) Communication. Computer assisted scoring.
Scales of Independent Behavior (SIB) (1984). DLM Teaching Resources	Birth - up	60 to 75	TR/IR = .74 to .94			X		X	X			Correlations between the SIB and and Woodcock Johnson Cognitive area = .71 to .92.	This test consists of four adaptive behavior clusters: Motor Skills, Social and Communication Skills, Personal Living Skills, and Community Living Skills. The Early Development Scale provides a developmental measure of adaptive behavior from infancy to three years.
Vineland Adaptive Behavior Scales (1984). American Guidance Service (AGS)	Birth to 18 years 11 months	20 to 30	Communication = .73 - .94 Daily Living = .83 - .92 Socialization = .78 - .94 Motor Skills = .70 - .95	$\bar{x}$ = 100 SD = 15		X		X				Median correlations between the Vineland and the Adaptive Behavior Inventory = .58, between Vineland and the AAMD Adaptive Behavior Scale = .40 to .70.	The scale assesses an individual's performance on the Daily Activities required for personality and social self sufficiency. The scale assesses four domains: (1) communication, (2) Daily Living, (3) Socialization, and (4) Motor Development.

APPENDIX III

Glossary[1]

Achievement Test. A test that measures the extent to which an individual has acquired certain information or mastered certain skills.

Aptitude. A combination of abilities and other characteristics, whether genetic or acquired, known or believed to be indicative of a child's ability to learn in some particular area.

Assessment. "Ongoing procedures used by appropriate qualified personnel throughout the period of a child's eligibility to identify (i) the child's unique needs; (ii) the family's strengths and needs related to development of the child; and (iii) the nature and extent of early intervention services that are needed by the child and the child's family" (P.L. 99-457 Regulations, Section 300.322).

Child Find. A series of public awareness efforts designed to alert the community at-large to the availability of and rationale for early childhood intervention programs and services.

Criterion-Referenced Test. A test that measures a specific level of performance or a specific degree of mastery.

Developmental Assessment. Standardized tests that are intended to document the emergence of a sequence of behaviors, skills, or abilities over a period of time.

Diagnostic Evaluation. An examination used to ascertain conclusively whether a child has special needs, to determine the nature of the child's problems, and to suggest the cause of the problems and possible remediation strategies.

Etiology. The cause or origin of a handicapping condition.

Evaluation. "Procedures used by appropriate qualified personnel to determine a child's initial and continuing eligibility for services" (P.L. 99-457 Regulations, Section 300.322).

Incidence. The frequency of occurrence of a problem at a particular point in time.

Individualized Family Service Plan (IFSP). A statement of the family's strengths and needs related to enhancing the development of the family's child, including specific statements about outcomes, criteria, and timelines regarding progress, specific services, provisions for case management, and dates for initiation, duration and reevaluation of service.

Multidisciplinary Assessment. An evaluation of a child's strengths and weaknesses from a variety of professional vantage points using a number of different sources of information, and involving the child's parents. Typically, the child's present levels of physical, neurological, cognitive, speech and language, psychosocial development, and self-help skills are assessed.

Norms. Statistics that describe the test performance of specified groups, such as children of various ages or handicapping conditions in the standardization sample of a test.

Prevalence. The number or proportion of individuals in a community or population with a given condition or problem.

Psychometric Test. Quantitative assessments of an individual's psychological and other developmental traits or abilities.

Readiness Test. A test that measures the extent to which a child has acquired certain skills or information for successfully undertaking some new learning activity.

Reliability. The extent to which a test is consistent in measuring whatever it measures; dependability, stability, relative freedom from errors of measurement.

Screening. A brief assessment procedure designed to identify children who should receive more intensive diagnosis or assessment. Screening is designed to help children who are at risk for health and developmental problems, handicapping conditions, and/or school failure to receive ameliorative intervention services as early as possible.

Sensitivity. A statistical property of a test that indicates the proportion of those children who are at risk who are correctly identified.

Specificity. The proportion of those not at risk who are correctly excluded from further assessment or treatment.

Standardized Test. A systematic sample of performance obtained under prescribed conditions, scored according to definite rules, and capable of evaluation by reference to normative information.

Validity. The overall degree of justification for interpreting and using a test's findings. It concerns a test's accuracy. Different kinds of validity evidence are appropriate for different kinds of tests.

1. See (40), from which several of these definitions were adapted.

APPENDIX IV

Statutory and Regulatory Requirements Regarding Screening and Assessment: P.L. 94-142 and P.L. 99-457

For many years, Education of the Handicapped legislation has required that all children from birth to 21 years of age who are suspected of having handicaps be "identified, located, and evaluated." The regulations that apply to this statutory requirement were included in P.L. 94-142; the relevant sections are reproduced in this Appendix. In addition, Part H of the Education of the Handicapped Act, as amended by P.L. 99-457, requires that each state's infant and toddler system include "A timely, comprehensive, multi-disciplinary evaluation of the functioning of each handicapped infant and toddler in the State." Part H statutes and regulations regarding screening and assessment also are included in this Appendix. They incorporate several significant differences when compared to P.L. 94-142, particularly in the role of the family and in the timing of reevaluations. **Please refer to the regulations for P.L. 94-142 and P.L. 99-457 for a complete statement of all requirements relevant to screening and assessment.** In particular, many of the comments included in the Appendix to the P.L. 99-457 regulations are pertinent to this subject. These regulations were published in the *Federal Register* on June 22, 1989 (volume 54, no. 119, pp. 26306-26348).

A. REGULATIONS UNDER EHA-B (P.L. 94-142) FOR EVALUATING CHILDREN FROM BIRTH THROUGH 21

According to regulations for the Education of the Handicapped Act, EHA-B (34 CFR Part 300), all States must insure that:

All children who are handicapped, regardless of the severity of their handicap, and who are in need of special education and related services are identified, located, and evaluated.

(Reg. 300.128/Statute Sec. 612, 2 c)

The term **evaluation** is defined as follows:

"Evaluation" means procedures used in accordance with Regs. 300.530-534 to determine whether a child is handicapped and the nature and extent of the special education and related services that the child needs. The term means procedures used selectively with an individual child and does not include basic tests administered to or procedures used with all children in a school, grade, or class.

(Reg. 300.500(c))

The following requirements apply to that process:

1. Prior notice; parent consent.

(a) Notice. Written notice which meets the requirements under Reg. 300.505 must be given to the parents of a handicapped child a reasonable time before the public agency:

(1) Proposes to initiate or change the identification, evaluation, or educational placement of the child or the provision of a free appropriate public education to the child, or

(2) Refuses to initiate or change the identification, evaluation, or educational placement of the child or the provision of a free appropriate public education to the child.

(b) Consent.

(1) Parental consent must be obtained before:

(i) Conducting a preplacement evaluation; and

(ii) Initial placement of a handicapped child in a program providing special education and related services.

(2) Except for preplacement evaluation and initial placement, consent may not be required as a condition of any benefit to the parent or child.

(c) Procedures where parent refuses consent.

(1) Where state law requires parental consent before a handicapped child is evaluated or initially provided special education and related services, State procedures govern the public agency in overriding a parent's refusal to consent.

(2) (i) Where there is no State law requiring consent before a handicapped child is evaluated or initially provided special education and related services, the public agency may use the hearing procedures in Regs. 300.506—300.508 to determine if the child may be evaluated or initially provided special education and related services without parental consent.

(ii) If the hearing officer upholds the agency, the agency may evaluate or initially provide special education and related services to the child without the parent's consent, subject to the parent's rights under Regs. 300.510—300.513.

(Reg. 300.504)

2. Opportunity to examine records.

The parents of a handicapped child shall be afforded, in accordance with the procedures in Regs. 300.562—300.569 an opportunity to inspect and review all education records with respect to:

(a) The identification, evaluation, and educational placement of the child, and
(b) The provision of a free appropriate public education to the child.

(Reg. 300.502)

3. Independent educational evaluation.

(a) General.

(1) The parents of a handicapped child have the right under this part to obtain an independent educational evaluation of the child, subject to paragraphs (b) through (e) of this section.

(2) Each public agency shall provide to parents, on request, information about where an independent educational evaluation may be obtained.

(3) For the purposes of this part:

(i) "Independent educational evaluation" means an evaluation conducted by a qualified examiner who is not employed by the public agency responsible for the education of the child in question.

(ii) "Public expense" means that the public agency either pays for the full cost of the evaluation or insures that the evaluation is otherwise provided at no cost to the parent, consistent with Reg. 300.301 of Subpart C.

(b) Parent right to evaluation at public expense. A parent has the right to an independent educational evaluation at public expense if the parent disagrees with the evaluation obtained by the public agency. However, the public agency may initiate a hearing under Reg. 300.506 of this subpart to show that its evaluation is appropriate; the parent still has the right to an independent educational evaluation, but not at public expense.

(c) Parental initiated evaluations. If the parent obtains an independent educational evaluation at private expense, the results of the evaluation;

(1) Must be considered by the public agency in any decision made with respect to the provision of a free appropriate public education to the child, and

(2) May be presented as evidence at a hearing under this subpart regarding that child.

(d) Requests for evaluations by hearing officers. If a hearing officer requests an independent educational evaluation as part of a hearing, the cost of the evaluation must be at public expense.

(e) Agency criteria. Whenever an independent evaluation is at public expense, the criteria under which the evaluation is obtained, including the location of the evaluation and the qualifications of the examiner, must be the same as the criteria which the public agency uses when it initiates an evaluation.

(Reg. 300.503)

Protection in Evaluation

4. (a) General.

(1) Each State educational agency shall insure that each public agency establishes and implements procedures which meet the requirements of Regs. 300.530—300.534.

(2) Testing and evaluation materials and procedures used for the purposes of evaluation and placement of handicapped children must be selected and administered so as not to be racially or culturally discriminatory.

(Reg. 300.530)

(b) Preplacement evaluation.

Before any action is taken with respect to the initial placement of a handicapped child in a special educational program, a full and individual evaluation of the child's educational needs must be considered in accordance with the requirements of Reg. 300.532.

(Reg. 300.531)

(c) Evaluation procedures.

State and local educational agencies shall insure, at a minimum, that:

(a) Tests and other evaluation materials:

(1) Are provided and administered in the child's native language or other mode of communication, unless it is clearly not feasible to do so;

(2) Have been validated for the specific purpose for which they are used; and

(3) Are administered by trained personnel in conformance with the instructions provided by their procedures.

(b) Tests and other evaluation materials include those tailored to assess specific areas of educational need and not merely those which are designed to provide a single general intelligence quotient.

(c) Tests are selected and administered so as best to ensure that when a test is administered to a child with impaired sensory, manual, or speaking skills, the test results accurately reflect the child's aptitude or achievement level or whatever other factors the test purports to measure, rather than reflecting the child's impaired sensory, manual, or speaking skills (except where those skills are the factors which the test purports to measure).

(d) No single procedure is used as the sole criterion for determining an appropriate educational program for a child; and

(e) The evaluation is made by a multidisciplinary team or groups of persons, including at least one teacher or other specialist with knowledge in the area of suspected disability.

(f) The child is assessed in all areas related to the suspected disability, including, where appropriate, health, vision, hearing, social and emotional status, general intelligence, academic performance, communicative status, and motor abilities.

(Reg. 300.532)

(d) Placement procedures.

(a) In interpreting evaluation data and in making placement decisions, each public agency shall:

(1) Draw upon information from a variety of sources, including aptitude and achievement tests, teacher recommendations, physical condition, social or cultural background, and adaptive behavior;

(2) Insure that information obtained from all of these sources is documented and carefully considered;

(3) Insure that the placement decision is made by a

group of persons, including persons knowledgeable about the child, the meaning of the evaluation data, and the placement options; and

(4) Insure that the placement decision is made in conformity with the least restrictive environment rules in Regs. 300.550—300.554.

(b) If a determination is made that a child is handicapped and needs special education and related services, an individualized education program must be developed for the child in accordance with Regs. 300.340—300.349 of Subpart C.

(e) Reevaluation.

Each State and Local educational agency shall insure:

(a) That each handicapped child's individualized educational program is reviewed in accordance with Regs. 300.340—300.349 of Subpart C, and

(b) That an evaluation of the child, based on procedures which meet the requirements under Reg. 300.532, is conducted every three years or more frequently if conditions warrant or if the child's parent or teacher requests an evaluation.

B. EVALUATING CHILDREN FROM BIRTH THROUGH TWO UNDER PART H (P.L. 99-457)

Definitions

Statute Sec. 672 (Reg. Sec. 303.16, 303.160, 303.300). As used in this part—

(1) The term "handicapped infants and toddlers" means individuals from birth to age 2, inclusive, who need early intervention services because they—

(A) are experiencing developmental delays, as measured by appropriate diagnostic instruments and procedures in one or more of the following areas: Cognitive development, physical development, language and speech development, psychosocial development, or self-help skills, or

(B) have a diagnosed physical or mental condition which has a high probability of resulting in developmental delay.

Such terms may also include, at a State's discretion, individuals from birth to age 2, inclusive, who are at risk of having substantial developmental delays if early intervention services are not provided.

(2) Early intervention services are developmental services which—

(A) are provided under public supervision,

(B) are provided at no cost except where Federal or State law provides for a system of payments by families including a schedule of sliding fees,

(C) are designed to meet a handicapped infant's or toddler's developmental needs in any one or more of the following areas:

(i) physical development,
(ii) cognitive development,
(iii) language and speech development,
(iv) psycho-social development, or
(v) self-help skills,

(D) meet the standards of the State, including the requirements of this part,

(E) include—

(i) family training, counseling, and home visits,
(ii) special instruction,
(iii) speech pathology and audiology,
(iv) occupational therapy,
(v) physical therapy,
(vi) psychological services,
(vii) case management services,
(viii) medical services only for diagnostic or evaluation purposes,
(ix) early identification screening, and assessment services, and
(x) health services necessary to enable the infant or toddler to benefit from the other early intervention services,

(F) are provided by qualified personnel, including—

(i) special educators,
(ii) speech and language pathologists and audiologists,
(iii) occupational therapists,
(iv) physical therapists,
(v) psychologists,
(vi) social workers,
(vii) nurses, and
(viii) nutritionists, and

(G) are provided in conformity with an individualized family service plan adopted in accordance with section 677.

(3) The term "developmental delay" has the meaning given such term by a State under section 676(b)(1).

(4) The term "Council" means the State Interagency Coordinating Council established under section 682.

REQUIREMENTS FOR STATEWIDE SYSTEM

Statute Sec. 676 (Reg. Sec. 303.300, subpart D). (a) In General.—A statewide system of coordinated, comprehensive, multidisciplinary, interagency programs providing appropriate early intervention services to all handicapped infants and toddlers and their families shall include the minimum components under subsection (b).

(b) Minimum Components.—The statewide system required by subsection (a) shall include, at a minimum—

(1) a definition of the term "developmentally delayed" that will be used by the State in carrying out programs under this part,

(2) timetables for ensuring that appropriate early intervention services will be available to all handicapped infants and toddlers in the State before the beginning of the fifth year of a State's participation under this part,

(3) a timely, comprehensive, multidisciplinary evaluation of the functioning of each handicapped infant and toddler in the

State and the needs of the families to appropriately assist in the development of the handicapped infant or toddler,

(4) for each handicapped infant and toddler in the State, an individualized family service plan in accordance with section 677, including case management services in accordance with such service plan,

(5) a comprehensive child find system, consistent with part B, including a system for making referrals to service providers that includes timelines and provides for the participation by primary referral sources,

(6) a public awareness program focusing on early identification of handicapped infants and toddlers,

(7) a central directory which includes early intervention services, resources, and experts available in the State and research and demonstration projects being conducted in the State,

(8) a comprehensive system of personnel development,

(9) a single line of responsibility in a lead agency designated or established by the Governor for carrying out—

(A) the general administration, supervision, and monitoring of programs and activities receiving assistance under section 673 to ensure compliance with this part,

(B) the identification and coordination of all available resources within the State from Federal, State, local and private sources,

(C) the assignment of financial responsibility to the appropriate agency,

(D) the development of procedures to ensure that services are provided to handicapped infants and toddlers and their families in a timely manner pending the resolution of any disputes among public agencies or service providers,

(E) the resolution of intra- and inter-agency disputes, and

(F) the entry into formal interagency agreements that define the financial responsibility of each agency for paying for early intervention services (consistent with State law) and procedures for resolving disputes and that include all additional components necessary to ensure meaningful cooperation and coordination,

(10) a policy pertaining to the contracting or making of other arrangements with service providers to provide early intervention services in the State, consistent with the provisions of this part, including the contents of the application used and the conditions of the contract or other arrangements,

(11) a procedure for securing timely reimbursement of funds used under this part in accordance with section 681(a),

(12) procedural safeguards with respect to programs under this part as required by section 680, and

(13) policies and procedures relating to the establishment and maintenance of standards to ensure that personnel necessary to carry out this part are appropriately and adequately prepared and trained, including—

(A) the establishment and maintenance of standards which are consistent with any State approved or recognized certification, licensing, registration, or other comparable requirements which apply to the area in which such personnel are providing early intervention services, and

(B) to the extent such standards are not based on the highest requirements in the State applicable to a specific profession or discipline, the steps the State is taking to require the retraining or hiring of personnel that meet appropriate professional requirements in the State, and

(14) a system for compiling data on the number of handicapped infants and toddlers and their families in the State in need of appropriate early intervention services (which may be based on a sampling of data), the number of such infants and toddlers and their families served, the types of services provided (which may be based on a sampling of data), and other information required by the Secretary.

INDIVIDUALIZED FAMILY SERVICE PLAN

Statute Sec. 677 (Reg. Sec. 303.14, 303.340). (a) Assessment and Program Development.—Each handicapped infant or toddler and the infant or toddler's family shall receive—

(1) a multidisciplinary assessment of unique needs and the identification of services appropriate to meet such needs, and

(2) a written individualized family service plan developed by a multidisciplinary team, including the parent or guardian, as required by subsection (d).

(b) Periodic Review.—The individualized family service plan shall be evaluated once a year and the family shall be provided a review of the plan at 6-month intervals (or more often where appropriate based on infant and toddler and family needs).

(c) Promptness after Assessment.—The individualized family service plan shall be developed within a reasonable time after the assessment required by subsection (a)(1) is completed. With the parent's consent, early intervention services may commence prior to the completion of such assessment.

(d) Content of Plan.—The individualized family service plan shall be in writing and contain—

(1) a statement of the infant's or toddler's present levels of physical development, cognitive development, language and speech development, psycho-social development, and self-help skills, based on acceptable objective criteria,

(2) a statement of the family's strengths and needs relating to enhancing the development of the family's handicapped infant or toddler,

(3) a statement of the major outcomes expected to be achieved for the infant and toddler and the family, and the criteria, procedures, and timelines used to determine the degree to which progress toward achieving the outcomes are being made and whether modifications or revisions of the outcomes or services are necessary,

(4) a statement of specific early intervention services necessary to meet the unique needs of the infant or toddler and the family, including the frequency, intensity, and the method of delivering services,

(5) the projected dates for initiation of services and the anticipated duration of such services,

(6) the name of the case manager from the profession most immediately relevant to the infant's and toddler's or family's needs who will be responsible for the implementation of the plan and coordination with other agencies and persons, and

(7) the steps to be taken supporting the transition of the handicapped toddler to services provided under part B to the extent such services are considered appropriate.

PART H COMPREHENSIVE CHILD FIND SYSTEM

According to the rules and regulations relating to P.L. 99-457 published in the Federal Register, June 22, 1989 (34 CFR Part 303):

Regulation Sec. 303.321 (Statute Sec. 676(5)). Comprehensive child find system.

(a) *General.* (1) Each system must include a comprehensive child find system that is consistent with Part B of the Act (see 34 CFR 300.128), and meets the requirements in paragraphs (b) through (e) of this section.

(2) The lead agency, with the advice and assistance of the Council, shall be responsible for implementing the child find system.

(b) *Procedures.* The child find system must include the policies and procedures that the State will follow to ensure that—

(1) All infants and toddlers in the State who are eligible for services under this part are identified, located, and evaluated; and

(2) An effective method is developed and implemented to determine which children are receiving needed early intervention services, and which children are not receiving those services.

(c) *Coordination.* (1) The lead agency, with the assistance of the Council, shall ensure that the child find system under this part is coordinated with all other major efforts to locate and identify children conducted by other State agencies responsible for administering the various education, health, and social service programs relevant to this part, including the efforts in the—

(i) Assistance to State Program under Part B of the Act;

(ii) Maternal and Child Health program under Title V of the Social Security Act;

(iii) Medicaid's Early Periodic Screening, Diagnosis and Treatment (EPSDT) program under Title XIX of the Social Security Act;

(iv) Developmental Disabilities Assistance and Bill of Rights Act; and

(v) Head Start Act.

(2) The lead agency, with the advice and assistance of the Council, shall take steps to ensure that—

(i) There will not be unnecessary duplication of effort by the various agencies involved in the State's child find system under this part; and

(ii) The State will make use of the resources available through each public agency in the State to implement the child find system in an effective manner.

(d) *Referral procedures.* (1) The child find system must include procedures for use by primary referral sources for referring a child to the appropriate public agency within the system for—

(i) Evaluation and assessment, in accordance with Secs. 303.322 and 303.323; or

(ii) As appropriate, the provision of services, in accordance with sec. 303.342(a) or sec. 303.345.

(2) The procedures required in paragraph (b)(1) of this section must—

(i) Provide for an effective method of making referrals by primary referral sources; and

(ii) Ensure that referrals are made no more than two working days after a child has been identified.

(3) As used in paragraph (d)(1) of this section, "primary referral sources" includes—

(i) Hospitals, including prenatal and postnatal care facilities;

(ii) Physicians;

(iii) Parents;

(iv) Day care programs;

(v) Local educational agencies;

(vi) Public health facilities;

(vii) Other social service agencies; and

(viii) Other health care providers.

(e) *Timelines for public agencies to act on referrals.* Once the public agency receives a referral, it shall, within 45 days—

(i) Complete the evaluation and assessment activities in sec. 303.322; and

(ii) Hold an IFSP meeting, in accordance with sec. 303.342.

(Authority: 20 U.S.C. 1476(b)(5))

Note: In developing the child find system under this part, States should consider (1) tracking systems based on high-risk conditions at birth, and (2) other activities that are being conducted by various agencies or organizations in the State.

PART H EVALUATION AND ASSESSMENT

Regulation Sec. 300.322 (Statute Sec. 677(a)(1)). Evaluation and assessment.

(a) *General.* (1) Each system must include the performance of a timely, comprehensive, multidisciplinary evaluation of each child, birth through age two, referred for evaluation, including assessment activities related to the child and the child's family.

(2) The lead agency shall be responsible for ensuring that the

requirements of this section are implemented by all affected public agencies and service providers in the State.

(b) *Definitions of evaluation and assessment.* As used in this part—

(1) "Evaluation" means the procedures used by appropriate qualified personnel to determine a child's initial and continuing eligibility under this part, consistent with the definition of "infants and toddlers with handicaps" in Sec. 303.16, including determining the status of the child in each of the developmental areas in paragraph (c)(3)(ii) of this section.

(2) "Assessment" means the ongoing procedures used by appropriate qualified personnel throughout the period of a child's eligibility under this part to identify—

(i) The child's unique needs;

(ii) The family's strengths and needs related to development of the child; and

(iii) The nature and extent of early intervention services that are needed by the child and the child's family to meet the needs in paragraphs (b)(2)(i) and (b)(2)(ii) of this section.

(c) *Evaluation and assessment of the child.* The evaluation and assessment of each child must—

(1) Be conducted by personnel trained to utilize appropriate methods and procedures;

(2) Be based on informed clinical opinion; and

(3) Include the following:

(i) A review of pertinent records related to the child's current health status and medical history.

(ii) An evaluation of the child's level of functioning in each of the following developmental areas:

(A) Cognitive development.

(B) Physical development, including vision and hearing.

(C) Language and speech development.

(D) Psychological development.

(E) Self-help skills.

(iii) An assessment of the unique needs of the child in terms of each of the developmental areas in paragraph (c)(3)(ii) of this section, including the identification of services appropriate to meet those needs.

(d) *Family assessment.* (1) Family assessments under this part must be designed to determine the strengths and needs of the family related to enhancing the development of the child.

(2) Any assessment that is conducted must be voluntary on the part of the family.

(3) If an assessment of the family is carried out, the assessment must—

(i) Be conducted by personnel trained to utilize appropriate methods and procedures;

(ii) Be based on information provided by the family through a personal interview; and

(iii) Incorporate the family's description of its strengths and needs related to enhancing the child's development.

(e) *Timelines.* (1) Except as provided in paragraph (e)(2) of this section, the evaluation and initial assessment of each child (including the family assessment) must be completed within the 45-day time period required in Sec. 303.321(e).

(2) The lead agency shall develop procedures to ensure that in the event of exceptional circumstances that make it impossible to complete the evaluation and assessment within 45 days (e.g., if a child is ill), public agencies will—

(i) Document those circumstances; and

(ii) Develop and implement an interim IFSP, to the extent appropriate and consistent with Sec. 303.345 (b)(1) and (b)(2).

(Authority: 20 U.S.C. 1476 (b)(3), 1477 (a)(1), (d)(2), (d)(3))

Note: This section combines into one overall requirement the provisions on evaluation and assessment under the following sections of the Act: (1) Section 676(b)(3) (timely, comprehensive, multidisciplinary evaluation), and (2) Section 677(a)(1) (multidisciplinary assessment).

The section also requires that the evaluation-assessment process be broad enough to obtain information required in the IFSP concerning (1) the family's strengths and needs related to the development of the child (section 677(d)(2)), and (2) the child's functioning level in each of the five developmental areas (section 677(d)(1)).

PART H PROCEDURAL SAFEGUARDS

Regulation Sec. 303.323 (Statute Sec. 680). Nondiscriminatory procedures.

Each lead agency shall adopt nondiscriminatory evaluation and assessment procedures. The procedures must provide that public agencies responsible for the evaluation and assessment of children and families under this part shall ensure, at a minimum, that

(a) Tests and other evaluation materials and procedures are administered in the native language of the parents or other mode of communication, unless it is clearly not feasible to do so;

(b) Any assessment and evaluation procedures and materials that are used are selected and administered so as not to be racially or culturally discriminatory;

(c) No single procedure is used as the sole criterion for determining a child's eligibility under this part; and

(d) Evaluations and assessments are conducted by qualified personnel.

(Authority: 20 U.S.C. 1476(b)(3), 1477(a)(1), (d)(2), (d)(3))

Sec. 303.345 Provision of services before evaluation and assessment are completed.

Early intervention services for an eligible child and the child's family may commence before the completion of the evaluation

and assessment in Sec. 303.322, if the following conditions are met:

(a) Parental consent is obtained.

(b) An interim IFSP is developed that includes—

(1) The name of the case manager who will be responsible, consistent with Sec. 303.344(g), for implementation of the interim IFSP and coordination with other agencies and persons; and

(2) The early intervention services that have been determined to be needed immediately by the child and the child's family.

(c) The evaluation and assessment are completed within the time period required in Sec. 303.322(e).

(Authority: 20 U.S.C. 1477(c))

Note: This section is intended to accomplish two specific purposes: (1) To facilitate the provision of services in the event that a child has obvious immediate needs that are identified, even at the time of referral (e.g., a physician recommends that a child with cerebral palsy begin receiving physical therapy as soon as possible); and (2) to ensure that the requirements for the timely evaluation and assessment are not circumvented.

Sec. 303.402 Opportunity to examine records.

In accordance with the confidentiality procedures in the regulations under Part B of the Act (CFR 300.650 through 300.576), the parents of a child eligible under this part must be afforded the opportunity to inspect and review records relating to evaluations and assessments, eligibility determination, development and implementation of IFSPs, individual complaints dealing with the child, and any other area under this part involving records about the child and the child's family.

(Authority: 20 U.S.C. 1480(3))

FEES

Regulation Sec. 303.521 (Statute Sec. 672 2 (B)). Fees.

(a) *General.* A State may establish, consistent with sec. 303.12(a)(3)(iv), a system of payments for early intervention services, including a schedule of sliding fees.

(b) *Functions not subject to fees.* The following are required functions that must be carried out at public expense by a State, and for which no fees may be charged to parents:

(1) Implementing the child find requirements in sec. 303.321;

(2) Evaluation and assessment, as included in sec. 303.322, and including the functions related to evaluation and assessment in sec. 303.12.

(3) Case management, as included in Secs. 303.6 and 303.344(g).

(4) Administrative and coordinative activities related to—

(i) The development, review, and evaluation of IFSPs in Secs. 303.340 through 303.346; and

(ii) Implementation of the procedural safeguards in Subpart E, and the other components of the state wide system of early intervention services in Subparts D and F.